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Abstracts

(An explanation of the classification used in the Digest was published in the January (1949) issue (Vol. 6, No. 1) on the page facing the Index to Authors)

[600]

FIBERS A

Fiber properties (chemical). Anon. *Power Laundry 82,* 66-7, 71 (Jan. 7, 1950); 157-9 (Jan. 21, 1950).

Outline of the chemical structure and properties of the various fibers, written as a guide to the dry-cleaner. Table.
HA

Natural fibers A 1

Improvement of cotton fiber properties by plant breeding. J. Winston Neely. *Textile Research J. 20,* 433-40 (June 1950).

The improvement of the quality of cotton fiber through the development of improved varieties by breeding requires a full understanding of: 1) the physical basis of inheritance, 2) the origin and development of the cotton fiber, 3) the effect of inheritance and environment upon the properties of cotton fiber, 4) the use of fiber technology in the improvement of fiber quality through breeding, and 5) the use of plant breeding technique in developing improved cotton varieties. Each of these topics is discussed.

Ramie. Bruno Luniak. Zurich, Verlag Leeman, 1949. 78 p. *In German.*

This is a concise, general review of ramie from its growth to its application in industry. Part I is devoted to a consideration of the cultivation, harvesting, and processing of ramie. Part II deals with the properties of the fiber and its application. World production is said to be approximately 25,000 tons of which only 5% are of first quality. Extensive use of ramie in the textile industry is limited due to the fairly high price of the fiber. Uses of ramie fiber, which are increasing, include: bed and table cloths, kitchen and hand towels, tropical suits (i. e. mixtures with wool and rayon staple) and as a base for carpets, canvases, curtains, etc. Included in the 52 excellent photographs in the book are 27 photomicrographs of the ramie fiber. In the literature references listed, which are from several languages, are the latest important papers appearing in the U. S. The makeup of the book is excellent.

[601]

Relation Of Six Elements Of Raw Cotton Quality To Strength Of 22s And 50s Yarn (Long Draft). Robt. W. Webb & Howard B. Richardson. (Preliminary Report). Washington, U. S. Dept. of Agriculture, Prod. & Mktg. Adm., Cotton Br., Apr. 1950. 63 p.

This is the eighth report in the series made from a study of relationships of cotton fiber properties to manufacturing performance and quality of manufactured product. Skein strength of 22s and 50s carded warp yarn, processed on long-draft roving and spinning equipment, is reported herein, as related to upper half mean length, uniformity ratio, fiber fineness (weight per in.), fiber tensile strength, percentage of mature fibers, and grade of cotton. This study included 828 cottons from the test series for selected cotton improvement groups and the Experiment Station Annual Variety Test Series, crop years 1945-47. The data representing these cottons were stratified by crop years, series, variety, individual staple lengths, and staple-length combinations. Data for each of these groups of cottons were statistically studied by use of multiple and simple correlation analyses. A total of 452 correlation analyses was made. A series of statistical values are reported for the relationships representing the entire group of cottons and for each subgroup of cottons studied. Two over--all equations are given for estimating the strength of 22s long-draft yarn: One on the basis of 6 fiber properties and the other on the basis of the 3 most important fiber properties. Two corresponding equations are listed for 50s long-draft yarn.

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Scientific cotton buying. Graves Jones. *Can. Textile J. 67,* 35, 36 (July 7, 1950).

Describes the procedure followed in the scientific buying of cotton for a group of mills. Fiber properties considered are grade, length, uniformity ratio, Pressley strength and fineness. Maturity is considered when a low tensile strength or an extremely fine fiber appears on a test. Other steps followed are: 1) At the beginning of each ginning season a laboratory check is made of the ginnings from all principal sections of the cotton belt to determine those producing the most desirable cotton. Buying is then restricted to those sections. 2) Purchases are made to meet the requirements of each mills' end product. All cotton is laboratory tested and a yarn estimation made before it is run in the mill. These laboratory tests are used to make up a uniform blend which is used day after day. 3) The opening room floor mixes are laboratory tested regularly and yarn break estimations are checked with the actual spinning results. 4) Fabrics are tested as final evidence that the cotton and yarn are producing a satisfactory piece of cloth.

Artificial fibers A 2

Acylamino styrene polymers. Jos. B. Dickey & Theodore E. Stanin (to Eastman Kodak Co.). USP 2 500 025, Mar. 7, 1950.

A polymer useful for the spinning of textile fibers resulting from the copolymerization of an acylamino styrene, the acylamino being attached to the ring and acrylonitrile, the acylamino styrene being between approximately 9% and 75% by weight of the whole.

Acrylic fiber. Harry Jefferis. *Daily News Record,* 35 (June 21, 1950).

Allied Chemical and Dye Corp. has developed an acrylic fiber with textile possibilities. The fiber is reported to be composed of 85% acrylonitrile and 15% acrylamide.

Alginate yarns obtainable in U. S. Anon. *Am. Wool Cotton Reptr. 64,* 57 (Apr. 6, 1950).

Alginate yarns, which are used as "scaffolding" yarns and subsequently washed out, are available in the U. S. from Lustre-Fibers, Inc., 350 Fifth Ave., New York. The soluble alginate yarns are produced by Courtauls, Ltd., in England. Yarns of 450 den. have recently been sold at $2.39 per pound, duty paid, delivered to the customers mill. Alginates are also available in staple form.

Bulk production plans for new Swiss fiber. Anon. *Chem. Eng. News 28,* 1860 (May 29, 1950).

Note: The new Grilon fiber has been tested in the Swiss textile industry, and it is claimed that stockings and fabrics made from Grilon alone or mixtures of Grilon and other fibers are equivalent and in some respects superior to nylon products. Holzverzuckerungs-AG, which has been operating its pilot plant continuously for the past few months, will erect a large-scale plant for the production of Grilon at Ems.

Commercial output of Dynel begins. Eldon Stowell, A. L. Snyder & R. W. Gaines. *Rayon & Syn. Tex. 31,* 35-6 (July 1950).

Properties and characteristics of Dynel, a new acrylonitrile-vinyl chloride staple fiber, are described. The use of Dynel in knitted and woven fabrics, and their finishing and dyeing are noted.

Diol-diisocyanate high molecular polymerization products. Heinrich Rinke, Heinz Schild & Werner Siefken (to Attorney General of the U. S.). USP 2 511 544, June 13, 1950.

Synthetic linear copolymers from diols and diisocyanates made by boiling the 2 compounds together are useful for the production of continuous filaments, sheets, films or the like.

Linear nitrogen-containing polymeric materials and processes for their production. Harold Bates, Jas. W. Fisher & Edw. W. Wheatley (to Celanese Corp. of Am.). USP 2 512 600, June 27, 1950.

Process for the production of a nitrogen-containing polymer, which comprises heating together sebacic diamide and sebacic dihydrazide and hydrazine, the total hydrazine present, combined and uncombined, being sufficiently more than one mole for each mole of sebacic acid present to produce a polymer resistant to hydrolysis by hydrochloric acid, and continuing the heating until the polymer has fiber-forming properties.

New family of rayons. J. A. Somers. *Brit. Rayon & Silk J. 26,* 62-3, 94 (May 1950).

A recent development in the production of new types of rayon is based upon the reaction of viscose with acrylonitrile to produce cyanoethyl ethers of cellulose. The modified viscose yields a new variety of fiber having properties related to protein types. This article is a summary of progress in this new field.

New Italian staple. Anon. *Textile World 100,* 234 (June 1950).

Note: Novatex, a new viscose staple produced by Snia Viscosa, Milan, Italy, is an extra long 3½-in. coarse staple, a mixture of 18 and 10 de-

niers, that has recently become available in the United States. Importation at this time is a result of carpet-manufacturer interest in the use of synthetic yarns to offset the high price and short supply of wool in world markets. It has not been determined whether the synthetic staple will be used in combination with wool in carpeting. Novatex is priced slightly higher than American staple of equivalent denier.

New Kuljian rayon spinning machine is unveiled at Philadelphia. Anon. *Textile Age 14*, 52-3 (May 1950).

Features of the Kuljian rayon spinning and processing machine, which manufactures rayon from the viscose solution to the finished yarn on the bobbin in 3½ minutes, are discussed.

New rayon spinning machine. Anon. *Am. Wool Cotton Reptr. 64*, 23-4 (Apr. 20, 1950).

A new spinning machine for viscose rayon, developed by the Kuljian Corp., is described. The machine is designed merely for changing the ordinary viscose solution into a completed and finished yarn in a single processing step. It spins and processes rayon in 3½ minutes compared to the usual spinning method which requires 4 to 5 days.

Orlon holds great promise. H. C. Froehling. *Am. Wool Cotton Reptr. 64*, 16, 89, 91 (Mar. 16, 1950).

The properties and suggested uses for Orlon acrylic fibers are described.

Place of rayon in textile progress. A. R. Urquhart. *J. Textile Inst. 41*, P137-47 (Apr. 1950).

This is a general discussion of the various synthetic fibers, their distinguishing characteristics, and their applications in textiles.

Plastic yarn's place in fabrics of the future. Elmer H. French. *Am. Wool Cotton Reptr. 64*, 23, 27 (Mar. 16, 1950).

The formation, properties, and application of polyvinylidene chloride monofilaments are reviewed.

Polymeric compounds from hydrocarbon silane diols and polyisocyanates or polyisothiocyanates. Robt. W. Upson (to E. I. duPont de Nemours & Co.). USP 2 511 310, June 13, 1950.

Copolymers of a hydrocarbonsilanediol with polyisocyanates are suggested for the production of fibers, films and plastics.

Some aromatic fiber-forming polyesters. R. J. W. Reynolds. *Chemistry & Industry*, No. 22, 425 (June 3, 1950).

(Abstract of a talk). Aliphatic polyesters have been much studied, but are of slight importance as fibers because of low melting point and susceptibility of hydrolysis. Aromatic polyesters are more promising, polyethylene terephthalate (Terylene) being the best example. Properties of aromatic esters vary with chain constituents in ways resembling polyamides, some giving higher melting points but most being inferior to Terylene. Effects of numerous substitutions and modifications in the chain were discussed.

Special rayon staple for rugs and carpets. Anon. *Rayon & Syn. Tex. 31*, 50 (July 1950).

A brief note calls attention to the availability of a new rayon staple designed for use in rugs and carpets. Avisco 15, a 15-den., dull crimped viscose rayon staple has been engineered to meet the requirements of the carpet industry and carpet service.

Synthetic yarn defects can often be identified. J. B. Goldberg. *Textile World 100*, 108-10, 208, 210 (June 1950).

Denier variations are not usually discovered in warps, but show up readily in the filling. Periodic denier also shows up in the filling. Yarns with the same denier but different filament counts will usually dye darker or lighter. Variations and causes of this condition are discussed. Cross section study is for the research chemist. Variations in cross section are described. Luster variations, tenacity and elongation characteristics, and broken filaments are also discussed briefly. Illustrated with photographs of microscopic enlargements. (This article is an extract from a forthcoming book "Fabric Defects; Case Histories of Imperfections in Woven Cotton and Rayon Fabrics".)

Tensile strength and elongation of lylon yarn. Anon. *Rayon & Syn. Tex. 31*, 64 (July 1950).

From an Official Bulletin of the Nylon Technical Service (DuPont) data are given on the effects of extreme cold and elevated temperatures on the tensile strength and elongation of nylon yarns.

Vicara. A progress report on this new blending fiber. John H. Karrh. *Rayon & Syn. Tex. 31*, 36-7 (July 1950).

Some of the applications of Vicara fiber are noted briefly.

Water-sensitive cellulose derivatives. John P.

Hollihan, Jr. & Sanford A. Moss, Jr. (to Am. Viscose Corp.). USP 2 511 060, June 13, 1950.

Acrylonitrile is added to viscose in controlled amounts to produce carboxyethyl cellulose fibers, filaments, etc., which possess the property of controlled water-sensitivity, the degree of which can be accurately and reproducibly predetermined within wide limits. The fibers compare favorably with standard viscose rayon fibers in dry tensile strength, but the wet strength is lower, depending on the increase in the amounts of acrylonitrile added to the viscose; the affinity of the cellulose for basic dyestuffs is improved. The highly water-sensive carboxyethylated cellulose is especially applicable for use in absorbent towelling, bandages, and the like, while the water-soluble type may be used as a foundation or ground fabric for lace, embroidery, etc., as it may be easily removed by treating the structure with water.

YARN PRODUCTION B

Discussion on neps in reprocessed stock. Anon. *Textile Industries 114*, 161-62 (Mar. 1950); 247, 249 (Apr. 1950); 163, 165 (June 1950).

In answer to an inquiry as to the experience of other mills regarding the relation between the number of neps in stock run one time, as compared with stock run containing 5% repossessed stock, the experience of several mills is given.

English system of condenser spinning. I-II. C. B. Cummins. *Textile Mfr. 76*, 207-12 (May 1950); 261-63, 270 (June 1950).

Part I—The types of waste used for condenser spinning can be classified under 2 headings: 1) hard waste, which includes all waste of a thready nature, and 2) soft waste which is made in cotton mill preparatory processes. The machines and operations used in processing these wastes are described. Part II—Describes a new type roller and clearer card, the condenser ring frame and the 3-speed mule. Calculations for spindle speed, draft and twist are included.

Machinery changes meet filament yarn requirements. Anon. *Am. Wool Cotton Reptr. 64*, 43, 45, 47 (May 4, 1950).

A review is given of the changes which have occurred in the machinery required for handling synthetic yarns. Included in the review are the substitution of cones for skeins, the development of warpers and cylinders, improved throwing machinery, etc.

Machinery improvements mill men would like to see. Anon. *Am. Wool Cotton Reptr. 64*, 69, 71 (May 4, 1950).

Current processing methods used in opening, picking, and carding in cotton mills are reviewed, and future developments and trends are discussed.

Mill practices discussed at STA meet. Anon. *Textile Industries 114*, 123, 125 (June 1950).

A report on the spring meeting of the Northern North Carolina-Virginia Division of the Southern Textile Assn. is presented. The topics discussed included carding, maintenance, warp preparation, weaving, spinning, technical controls, standards, and industrial relations.

Problems of "static". A Technical Correspondent. *Textile Recorder 68*, 73-4 (June 1950).

The problem of static electricity has been intensified by the use of synthetic fibers. While efforts have been made to minimize or eliminate this trouble in textile mills, much remains to be done. There are 2 main classes of practical remedies for static electricity: 1) discharge or neutralizing systems which work through the air, and 2) conducting methods which allow the charges to leak to earth along the yarns themselves. The Shirley Institute equipment developed to eliminate static electricity is noted. The Shirley device is a double electrode system which produces both positive and negative ion streams simultaneously. It is particularly effective in processes where the static charge changes from + to —, or vice versa, with the speed of passage of the yarn or fabric. Adequate safeguards are provided for the Shirley device. Anti-static finishes, which make the yarn conducting, and the measurement of potential are also discussed briefly.

Quality control in cotton manufacturing. Anon. *Am. Wool Cotton Reptr. 64*, 14-15 (Apr. 6, 1950); **Inspection of pickerlaps.** Anon. *Am. Wool Cotton Reptr. 64*, 13-14 (Apr. 13, 1950).

A report is presented of the discussion on methods and systems of inspection and quality control in carding and spinning in cotton manufacturing at the spring meeting of the Eastern Carolina Division of the Southern Textile Association.

Research and new machinery open new era for wool. Anon. *Am. Wool Cotton Reptr. 64*, 13, 14 (Apr. 27, 1950).

A report is given on 2 symposia on wool machinery developments and research of the National Association of Wool Manufacturers.

Saco-Lowell system for nylon staple fiber. Anon. *Saco-Lowell Bull. 22,* 1-8 (May 1950).

The technical problems encountered in spinning nylon staple fiber are discussed and Saco-Lowell machinery developed for processing this fiber is described. Machines noted are: the FS-2 roving frame, the "Z" spinning frame, and the "Z" drafting system.

Saco-Lowell system for worsted spinning. Anon. *Saco-Lowell Bull. 22,* 1-12 (Dec. 1949).

Describes the Saco-Lowell Worsted System for Drawing, Roving and Spinning. The DS drawing frame and the new Type 4 drafting unit for roving and spinning are described in some detail. Illustrated by drawings and photographs.

Saco-Lowell system for worsted spinning. Anon. *Saco-Lowell Bull. 22,* 18-32 (May 1950).

Describes and illustrates the machines used in the Saco-Lowell system for worsted spinning.

Statistical control of yarn variation. Anon. *Can. Textile J.* 67, 66 (June 23, 1950).

In a brief report of a lecture by Harold LeDuc before the American Society for Quality Control, the importance of statistical methods in measuring the variation and locating the source of the variation is emphasized. Practical steps suggested for putting the statistical theory to use are: 1) all machines must be carefully checked for mechanical defects and draft constants brought together with a given process; 2) a table of standards is computed; 3) samples are taken from different machines in the key processes at regular intervals so that all the machines are ultimately tested.

Synthetic spun yarns responsible for new machines. Anon. *Am. Wool Cotton Reptr. 64,* 49, 51, 55-6 (May 4, 1950).

Changes in picking, carding, drawing, and spinning equipment for processing synthetic spun-type yarns are discussed.

Fiber preparation B 1

Theory of long draft (Shaw system). Anon. *Saco-Lowell Bull. 22,* 45-52 (May 1950).

Describes the Shaw drafting system as applied to drawing, combing, roving or spinning, and gives details of the machine elements.

Discussion on oiling cotton. Anon. *Textile Industries 114,* 249 (Apr. 1950).

In answer to a question regarding the experience of mills with spraying oil on cotton at the pick-

ers, suggestions are given for the proper application of oil and the results obtained. Oiled cotton was reported as running slightly more uniformly with fiber breakage at a minimum. Card fly was decreased 10% and ends down were less for oil treated cotton slubbers.

Further improvements in the No. 12 lattice opener and cleaner. Anon. *Saco-Lowell Bull. 21,* 44-6 (Dec. 1949).

Describes improvements made in the No. 12 lattice opener and cleaner which, in some instances, has increased the amount of impurities removed as much as 50-60%. The change can be made on existing No. 12 lattice openers.

Management and maintenance of flax dressing machinery. S. A. G. Caldwell. *Textile Mfr. 76,* 268-70 (June 1950).

The foundations of spinning behavior, yarn strength and quality are laid in the flax dressing department, and mistakes made in judgment of fiber quality in relation to the amount of dressing required, or in setting and speeding machines to the needs of specific qualities or types of material, cannot be entirely rectified at any subsequent stage of manufacture. Suggestions are given for the efficient organization and operation of a flax dressing department.

Method and apparatus for dry cleaning wool and other materials. Manfred Hoffam. Can. P. 463 112, Feb. 14, 1950.

The method of dry-cleaning and degreasing a material of the nature of wool and other fibers and fibrous bodies, hair, skins, fur and fabrics with a dry-cleaning grease—dissolving solvent which comprises continuously advancing the material in layer form through an elongated cleaning zone in a sinuous path and therein feeding solvent at a plurality of longitudinally spaced points through the layer and draining used solvent therefrom while at a plurality of points spaced longitudinally of the layer, subjecting the layer to simultaneous rolling squeezing and bending action and to simultaneous reciprocal transverse rubbing and scrubbing action relative to the advancing layer oppositely on its opposite surfaces.

Method of and means for handling staple fibers. Chas. W. Cox (to Am. Viscose Corp.). USP 2 511 970, June 20, 1950.

Method of handling staple fibers which normally retain moisture when in equilibrium with the atmosphere under ordinary conditions of temperature and humidity, and subsequent to initial dry-

ing thereof, which comprises treating the fibers in a conditioning zone with moist air so that at least a portion of the fibers pick up an amount of moisture equivalent to the amount of moisture retained by the fibers under ordinary temperature and humidity conditions, separating the fibers and conditioning air, projecting the fibers into an opener, directing the conditioning air separated from the fibers in the form of a stream along a predetermined enclosed path, subjecting the fibers in the opener to suction created by the stream of air moving along the enclosed path so that the fibers are drawn from the opener into the air stream, throwing the fibers suspended in the air stream against a perforated surface disposed in the path of the air stream whereby to separate the air and compact the fibers against the surface.

Pneumatic pressure system for pickers and lap winders. Anon. *Saco-Lowell Bull. 22,* 11-17 (May 1950).

Describes details of construction and operation of a pneumatic pressure system for pickers and lap winders. The new system eliminates the conventional brake pressure system and makes possible an increase of 10 lbs. or more in the weight of laps of the same size as produced by the conventional system.

Process for crimping natural fibers. Anon. *Am. Dyestuff Reptr. 39,* 446 (June 26, 1950).

Note: A new process called "Textralizing," by which straight natural fibers used in textiles can be permanently crimped on a commercial basis, at low operating cost, has been developed by the Research and Development Division of Alexander Smith & Sons Carpet Co., Yonkers 1, N. Y. Among the advantages claimed are greater fabric bulk and resilience, increased wear resistance, and reduced material and manufacturing costs. It is also said to offer improved hand or "feel" and to make possible entirely new fabric effects. While development work so far has been concentrated primarily on wool, experiments reportedly have shown that Textralizing offers many possibilities in the modification of other natural fibers and also of reducing yarn weight without loss of cover, hand and wear.

Treating wool scour liquor. Fields Point Mfg. Corp. Australian P. 136 868, Mar. 6, 1947.

Recovery of wool grease, and simultaneous deodorization, is effected in a process characterized by adding to the liquor sufficient calcium hypochlorite to reduce the pH to between 7 and 8 and thus produce a curd of foreign matter. An upper curd layer (principally grease) may then be skimmed off and double centrifuged to give a high quality grease, while the lower layer may be settled, acidified, settled again, and finally passed with steam through a filter press to give a lower grade grease.

Wool oil metering system. Anon. *Am. Wool Cotton Reptr. 64,* 41 (June 8, 1950).

Describes briefly a wool oil metering system whereby oil is evenly applied to wool in the picker room. A pipe is run parallel to one of the rolls in the picker and ordinary oil burner nozzles are placed in it to spray the oil uniformly as the wool passes under the nozzles. In this way the operators know definitely how many gallons of oil they should apply to a batch of so many pounds of wool. They can pump the oil to the spray at the picker through an RP meter.

Carding and combing B 2

Continuous vacuum cleaner for carding engines. Agustin M. Castell (to C. A. Constant Card). USP 2 507 141, May 9, 1950.

An apparatus for preventing the clogging of the card clothing of the card cylinder of carding engines having a suction nozzle mounted on a nozzle-carrying body for entering a slot provided in, and extending lengthwise of, the cover of the carding cylinder at the rear part of the carding engine in the space between the licker-in and the curve formed by the flats, means for supporting the body, and means for reciprocating it lengthwise of the carding cylinder, the nozzle-carrying body including a suction chamber communicating with a source of suction outside the body, a revolving drum divided by radial walls into longitudinal compartments and provided on its cylindrical face with a group of radial perforations for each of the compartments, means for pressing one end of the drum against the wall of the suction chamber, a suction port in the wall extending over a sector corresponding to at least one compartment of the drum, a sealing packing at the other end of the drum, means for sealing the space between the lower part of the drum and the wall of the body, a rotatable roller mounted for rocking movement, and means for pressing the roller against the surface of the drum for the purpose of compacting the fibers collected on the drum and expelling them.

Double doffer condenser. J. A. B. Mitchell. *Textile Mfr. 76,* 281-82, 308 (June 1950).

The double doffer condenser is commonly re-

garded as having 2 faults: 1) a tendency to produce different counts on upper and lower spools, the top doffer slivers invariably being heavier than those from the bottom one, and 2) a tendency for the top doffer rings to take a greater proportion of the longer fibers in the blend. Fault 1) can be corrected by a) adoption of wider rings on bottom than on top doffers, or b) running the doffers at different speeds. A test is described which was devised to investigate fault 2) and at the same time compare strengths of yarn made from top and bottom doffers.

Drawing-off on the Noble comb. T. F. Griffin. *Textile Mfr. 76,* 277-80 (June 1950).

A large part of the strain imposed on the fibers is due to the fact that they are not pulled forward in a straight line at the commencement of the drawing-off, and it is at this instant that the fiber is likely to be broken. The discussion includes: effect of draft, lowest practical draft, position of the drawing-off rollers, fiber breakage during drawing-off, angle of fiber during drawing off, wear on the leather, and additional advantages of draft.

Fancy. Anon. *Saco-Lowell Bull. 21,* 36 (Dec. 1949).

The function and operation of the Saco-Lowell fancy for revolving flat cards are described briefly. As long as the wire on the cylinder is free from "loading" the quality of the sliver is satisfactory, in that it will be free from neps and other wasty aggregates. Quality falls off rapidly as soon as the free movement of the wire is impeded by the waste packing into the inter-wire spaces, neps increase, and the web becomes cloudy and uneven. The use of the fancy is recommended as a correction for these faults.

Georgia mill carding practices. Anon. *Textile Industries 114,* 127, 129, 133-34. **Carding and spinning discussed.** Anon. *Textile Industries 114,* 129-30, 133, 135-36 (June 1950).

Reports on the open forum discussion and written answers to questions on carding and spinning presented at the spring meeting of the Textile Operating Executives of Georgia are given.

Maintenance of sliver lapper and ribbon lapper. Anon. *Whitin Rev. 17,* 32-7 (Jan.-Feb. 1950).

Instructions for the proper maintenance of the Whitin sliver lapper and ribbon lapper are given.

Maintenance of the revolving top flat card. Wm. Langlois. *Whitin Rev. 16,* 23-32 (Nov.-Dec. 1949).

This is a presentation of the essentials of good card maintenance which should be useful and known to card room supervisors.

Saco-Lowell continuous stripper. Anon. *Saco-Lowell Bull. 22,* 57-62 (May 1950).

Features of the Saco-Lowell continuous card stripper are noted. A reduction in nep count of 70% is said to be possible on cards equipped with continuous stripper. For a cotton of equal grade, character, and the same ginning the nep count can be stablized as there is no increase in neps due to fiber build up on the card.

Saco-Lowell Model 50 comber. Anon. *Saco-Lowell Bull. 22,* 37-40 (May 1950).

Construction and performance details of the Model 50 comber are described.

16 carding questions answered by Georgia men. Anon. *Textile World 100,* 127, 202, 204, 206, 208 (June 1950).

Questions covered at the recent meeting of the Textile Operating Executives of Georgia include oiling cotton, opening equipment, fringe rolls for pickers, life of card clothing and flat chains, ball bearings on cards, fluid-type drives, overhead cleaning, drawing rolls and bearings for same, and laboratory tests for bundle break and fiber fineness.

Steam eliminates static on Peraltas. Anon. *Textile Industries 114,* 166 (June 1950).

To neutralize static electricity and eliminate its incident troubles, cards, in a woolen mill, were equipped with steam pipes and jets directed at the Peralta crushers. Located at the delivery end of the Peraltas, the jets are operated by the card tenders when atmospheric conditions tend to create static electricity. The equipment, which is illustrated by a diagrammatic sketch, has been supplemented with electric neutralizers, and wooden aprons have been replaced with steel aprons.

Drafting and roving B 3

Common roving defects have simple causes and remedies. Robt. H. Pharr. *Textile World 100,* 135, 210, 212 (June 1950).

The following types of defects and their causes and remedies are discussed: 1) oily roving, 2) dirty roving, 3) doublings, 4) singlings, 5) cut roving, 6) fly, gouts, and trash, 7) hard ends, and 8) improper package.

Draft formula for multi-draft fly frame. John Duerst. *Textile Industries 114,* 168-70, 283, 285 (Apr. 1950).

Formulas are developed for drafts which may be applied to any of the modern multi-draft or compound draft systems.

Drawing frames. Anon. *Saco-Lowell Bull. 22,* 29-35 (Dec. 1949).

Describes the proper operation of drawing frames and gives suggestions for eliminating the causes of trouble. The discussion includes: importance of the rolls, bottom roll gearing, top rolls, roll covering, a convincing test, clearers, stop motions, the trumpet, drafting, the sliver, and roving cans.

Top roll clearer for drawing frames. Chas. D. Miller & L. S. Lyles. USP 2 509 982, May 30, 1950.

In a drawing frame and the like having top and bottom rolls, a cover disposed above the top rolls, an oscillatable shaft at the rear of the frame on which the rear edge of the cover is pivoted, a pair of downwardly projecting pins extending from the lower surface of the cover, a board disposed between the pins and having a plate secured to and extending from each end thereof, each of the plates being slotted in a direction transverse to the axes of the rolls and through which the pins are adapted to project, mean on the lower ends of the pins for supporting the board when the free end of the cover is raised, the board having a felt covering on its lower surface for contacting the top rolls, and means connecting the board and the oscillatable shaft for imparting reciprocatory movement to the board in a direction which is transverse to the longitudinal axes of the rolls.

Spinning B 4

Apparatus for recording intermittent operation of a machine. Stanley P. Hunt (Institute of Technology). USP 2 491 110, Dec. 13, 1949.

The present invention is directed to the provision of a recording apparatus, which can be used with a spinning frame to make a record of the total output of the frame per shift, the number of doffs per shift, and the output in hanks between successive doffs. In the new apparatus, the records are made on a record sheet, preferably in the form of a card, and, at the beginning of the shift, a card assigned to the particular doffer is inserted in the apparatus. The recorder is enclosed in a casing and the closing of the casing after insertion of the card causes the reading of

a counting device to be printed on the card. The counting device is driven from a moving part of the frame, such as one of the delivery rolls, and, when the frame is in operation, the counting device counts the output of the yarn in terms of hanks. Whenever the frame is stopped for doffing, the resetting of the builder motion of the frame by the doffer causes the reading of the counting device at that time to be printed upon the card. At the end of the shift, when the doffer's card is to be removed, the opening of the casing causes a reading of the counting device to be printed on the card. Each card thus bears a record of the reading of the counting device in hanks at the beginning and end of the shift and records of the intermediate readings of the device at the doffs. With such a record, accurate computation of the doffer's pay is an easy matter.

Care and maintenance of ball bearing top rolls for roving and spinning frames. Anon. *Whitin Rev. 16,* 33-5 (Nov.-Dec. 1949).

Brief, detailed instructions are given for the maintenance and care of ball bearing top rolls for Whitin roving and spinning frames. The component parts of a ball bearing top roll are shown in a photograph.

Centrifugal spinning reaches 16,000 rpm. Harold Farnsworth. *Textile World 100,* 116-17, 194, 196, 198, 200 (June 1950).

A description of the Prince-Smith & Stells spinning frame for spinning worsted, the spinning process, the rewinding, and doffing are given. At a predetermined length, the frame rewinds the contents of the containers to tubes or bobbins. These are lowered and tilted; and may be replaced while the next doff is spinning. End breaks are few, but are doffed individuallly instead of being pieced up. Rewinding also takes place automatically in the event of power failure. Centrifugal twisting is accomplished in a similar manner, and can be done direct from the spinning packages. (Excerpts from a talk to the National Association of Wool Manufacturers).

Collins and Aikman develops a universal drafting system. Wm. A. Newell. *Textile World 100,* 89-91 (June 1950).

A system utilizing conventional opening, picking, and carding, and a new drafting arrangement on roving frames and spinning frames can handle blends of mohair, wool, nylon staple, cotton and other fibers in lengths of 1 to 9 inches. The system employs an apron and a pin roll along with different combinations of other rolls. The apron

and pin roll can be adjusted by weighting either or both. The other rolls can also be adjusted in various manners. Illustrated with pictures of the system; diagrams; and pictures of yarn produced on the system.

Draft roller treating machine. St. Julian Geddings. USP 2 505 108, Apr. 25, 1950.

A precision machine, which will separate and assemble the draft roller sections, without injury or bending the same, and if the draft roller sections have become bent prior to their separation or assembling, the machine will restore them to the precise straight condition. The machine is brought to the spinning frame and the draft roller to be treated is removed from the bearings of the spinning frame and mounted upon the brackets secured to the frame beam. This provides the minimum transporting of the draft roller, for treatment and replacement.

Hegemax system. Anon. *Rayonne 6,* 59-63 (June 1950); *in French.*

The operation of the Hegemax system for continuous spinning is explained. Its principle advantage is the 60-70% reduction of yarn breakages. Because of this reduction, winding may be accelerated 15-20%.

Spindle for spinning, twisting, and the like machines and driving means therefor. Anton Portmann. Can. P. 462 421, Jan. 10, 1950.

Driving arrangement for the spindles of spinning, twisting and the like machines, which comprises a spindle, a directly driven driving shaft coaxial with the spindle, a friction driver between the spindle and the shaft coonstituted by a plate on the spindle, a disc on the driving shaft, the plate and the disc lying upon one anther in face-to-face relationship, and a spring continuously urging the parts into frictional engagement with one another, a recessed member on the shaft, and a centering bearing in the recess into which the shaft of the spindle projects.

Spinning fur blends on the cotton system. Anon. *Textile Industries 114,* 92-4, 190-91 (May 1950).

The processing of fur fiber blends on the average cotton system equipped for rayon yarn production is discussed, including opening, carding, drafting, spinning, and weaving.

Spinning machine betters 10,000 RPM. Anon. *Am. Wool Cotton Reptr. 64,* 43 (June 1, 1950).

Features of an improved high speed spinning machine for worsted yarns shown by McGlynn Hays

Industries at the American Textile Exhibition are described.

Suction device for spinning machines. H. C. Bechtler. Australian P. 137 254, June 1, 1950.

In spinning machines having suction nozzles for pneumatic removal of fluff, dust and torn-off threads, mounting means are provided for the nozzles so that they are adjustably movable from a normal working position adjacent the feed rollers to a position clear of the rollers.

Tape driving. Anon. *Textile Mfr. 76,* 285-87 (June 1950).

An illustrated description of the setting procedure for jockey pulleys on cotton and woolen ring spinning frames and doubling frames.

Wool spinning. R. F. Nickerson. *Am. Wool Cotton Reptr. 64,* 14-15 (Mar. 23, 1950).

The use of Syton, an aqueous suspension of colloidal silica, in wool spinning has undergone a phenomenal growth in the past 4 years. This increased application of Syton can be attributed to the improved yarn strength and spinning efficiency, the reduced waste, and the more even yarns, obtained from its use in the spinning of woolen and worsted yarns.

Yarn standards established. Anon. *Am. Wool Cotton Reptr. 64,* 43-4 (May 18, 1950).

A report on the discussion on the inspection of spun yarn at the spring meeting of the Eastern Carolina Division of the Southern Textile Association is given.

Winding and spooling B 5

Automatic bobbin loader for Whitin-Schweiter filling winder. Anon. *Whitin Rev. 16,* 111-6 (Nov.-Dec. 1949).

Describes the Whitin automatic bobbin loader and delivery unit for use with the Whitin-Schweiter automatic filling winder. The new attachment features a large capacity hopper, an automatic delivery and supply mechanism to deliver the empty bobbins to the winder units and an automatic return for surplus bobbins. A table is given showing comparative operator assignments and percentage increase when the automatic bobbin loader is used.

Device and process for twisting and spinning. Eugene C. Gwaltney (to Saco-Lowell Shops). USP 2 473 520, June 21, 1949.

Method of twisting a thread in which the conventional arrangement of the twisting thread is

altered by an increase in the length of the figure of revolution between a circularly-moving generator and an apex sufficient so that such figure tends to assume an outwardly concave necked configuration if allowed to follow its natural course between the apex and generator, and a naturally outwardly-concave portion of the figure so formed is stabilized in an outwardly-convex outline by causing the figure to react against encircling confining force between the portion and the apex.

Doffing mechanism. Saml. A. Mansfield, David Taylor & Ben. I. Smith (to Celanese Corp. of Am.). USP 2 511 928, June 20, 1950.

Doffing mechanism for yarn winding apparatus comprising, in combination with a vertically reciprocating ring rail and means, including a cam and a cam shaft on which the cam is mounted, for effecting the traverse of the ring rail, a rotatable spindle rail, means for supporting a plurality of spindles on the spindle rail, means operatively conducted to the cam shaft for raising the ring rail above the normal traverse thereof and above the spindles, and means for rotating the spindle rail while the ring rail is in its raised position to bring to each of the spindles in turn into winding position.

Modern winding and twisting techniques. Karl H. Inderfurth. *Can. Textile J. 67,* 58-61 June 23, 1950).

This is a discussion of handling techniques involved when processing self-supported packages of staple yarn on drum winders and ring twisters, and methods employed when processing continuous nylon for weaving or knitting.

Spindle. Winslow S. Pierce, Jr. USP 2 510 292, June 6, 1950.

A spindle assembly for rapidly rotating a textile strand bobbin comprising a rigid driving base, a pair of axially spaced bearings supporting the base to rotate about a fixed substantially vertical axis, an elongated flexible blade formed of superimposed layers of oppositely spirally wound wire fixed to and extending vertically upward from the base and lying along the fixed axis of rotation of the base when the blade is in the unflexed condition, and a hollow elongated bobbin supporting sleeve surrounding and substantially coextensive with the blade and fixed adjacent its upper end to the upper end portion of the blade, the sleeve and the blade being radially spaced apart except at their point of connection.

Twister spindle. Ernest Koella. USP 2 511 638, June 13, 1950.

A multiple-twist twister spindle which is provided with a sleeve telescoping over the hollow spindle and provided with a bracket for supporting a tension device above the hollow spindle. The sleeve is rotatable relative to the spindle to allow the tension device to rotate during unwinding of the yarn from the bobbin around the spindle.

Twister spindle. Ernest Koella. USP 2 511 639, June 13, 1950.

A take-up multiple-twist type of twister spindle provided with a specific arrangement of gearing for rotating the hollow spindle.

Whitin aluminum sheath spindles for warp preparation—proven performance. Anon. *Whitin Rev. 17,* 42-6 (Jan.-Feb. 1950).

Features of the Whitin aluminum sheath spindles are noted. The dimensions of 2 manufacturers' paper tubes for the spindles are given in diagrammatic sketches.

Yarn processing B 6

Mercerization. Wm. F. Luther (to Dixie Mercerizing Co.). USP 2 512 951, June 27, 1950.

The process of mercerizing single ply cotton yarns that comprises initially forming a yarn package by winding on a perforate tubular support succeeding lengths of a yarn in superimposed courses while progressively increasing the winding tension during the winding period and thereafter subjecting the supported package to a caustic soda solution of concentration about 26-35° Tw.

New control-spray assures uniform oiling and tinting. Robt. D. Robinson. *Textile World 100,* 100-01, 188 (June 1950).

A device for oiling and tinting at the first pin drafter developed at Uxbridge assures longer pin life, less cleaning, less brush waste, less lapping on rolls, and better subsequent processing. A low pressure nozzle is used to give a fine spray in the oiling chamber. The sliver balloons out and acts as a filter for the oil and tint. No metering pump is used. Illustrated with a picture of the unit and tables are given showing typical formulas and identifying colors used with the spray. (Digest of paper given before the National Association of Wool Manufacturers).

Thread coating apparatus. Dwight K. Alpern, Herman M. Freydberg & Wm. H. Hawkins (to Freydberg Bros.-Strauss, Inc.). USP 2 509 407, May 30, 1950.

In a thread coating and drying apparatus, the coating apparatus is placed at the top of the drying chamber with the coating nozzles arranged in such a way that the thread moves vertically from the several vertically positioned coating nozzles directly into the drying chambers.

Worsted yarn standards help American system. R. J. McConnell. *Textile World, 100,* 133 (June 1950).

The modern American system, employing the double apron principle of drafting, handles fibers up to 7 in. long, 5 in. mean. Changes have been made in the roving frame roll sizes to enable them to handle staple lengths up to 7 in. Research has also been done in preparation methods. A table gives standards used with the Uster tester. (From a talk before National Association of Wool Manufacturers).

Yarn conditioning device. Chas. F. Dulken, Deitrich Oberreit & Helmuth Sonntag (to Dulken). USP 2 510, 390, June 6, 1950.

A device for conditiong and dyeing yarn and the like by means of a liquid while the yarn is on a package into which it has been wound by a winding machine having a positively driven drive roller for rotating the package, the device comprising a wick, holding means for the wick movably connected with the machine, liquid supply means connected with the holding means for wetting the wick, and periodically acting actuating means connected with the holding means for moving same to and from the drive roller for intermittent contact of the wick with the drive roller and intermittent application of liquid from the wick to the drive roller from which the liquid is picked up by the surface of the yarn package.

Special yarns B 7

Himalaya and slub means for spinning frames. Irma B. McKeown. USP 2 509 443, May 30, 1950.

This invention provides a Himalaya attachment working in conjunction with a slub attachment and provides pattern means for effecting operation of the Himalaya attachment at various intervals according to the desired pattern and provides means for effecting operation of the slub attachment during the intervals at which the Himalaya attachment is not in operation to thus produce a flake filling having thick places in the yarn of varied length, the length of the thick places being unlimited, according to a desired pattern, during operation of the Himalaya attachment and the thick places occurring only periodically and being relatively short during the operation of the slub attachment. This is caused by reducing or stopping the drawing operation at predetermined intervals so as to produce intermittently spaced enlarged portions of various lengths in the strand of yarn.

Permanently set hard twist wool yarn. Robt. J. Jackson (to Bigelow-Sanford Carpet Co., Inc.). USP 2 509 348, May 30, 1950.

An abnormally hard twisted yarn comprising wool fibers twisted so tightly that the yarn contains kinks at intervals, the yarn having a permanent set in tensionless and kinked condition, whereby it is resistant to untwisting and unkinking when wet and being free of kinks when tensioned to adapt it to be woven under tension as the pile warp in a carpet wire loom.

Rubber thread package. Geo. S. Van Voorhis. USP 2 511 655, June 13, 1950.

Rubber thread is packaged by spirally laying it and adhesively mounting it upon a paper backing. A plurality of such sheets may be superimposed upon a spindle or rod.

Some uses of nylon in the wool industries. P. Thornton. *Hos. Trade J. 57,* 46 (Feb. 1950).

Report of address to Cumberland Textile Society. Discusses use of continuous filament nylon as a reinforcement for wool yarn, as a striping thread, and as a structural reinforcement for woven fabrics. The development of nylon staple is also referred to.

HA

FABRIC PRODUCTION C

Give monofilaments a chance. Anon. *Am. Wool Cotton Reptr. 64,* 9-10 (May 25, 1940).

In a discussion of the advantages of using monofilament yarns in fabrics, the greater abrasion and soil resistance, the fineness, and the built-in stiffness of monofilament fabrics are discussed.

Manufacturing glass fabrics. Jas. N. Nordahl. *Textile Industries 114,* 96-102 (May 1950).

The warping, drawing-in, weaving, warp hanging, quilling, inspecting, trimming, and finishing of glass fabrics at the Coast Manufacturing and Supply Co. are described. A brief history and the available forms of glass fibers are also discussed.

So you want good cloth. 4-13. Frank D. Herring. *Textile Bull. 75,* 53-4, 56, 58 (Feb. 1949); 51-2, 54-5 (Mar. 1949); 57-8, 60 (Aug. 1949); 55-6, 58 (Sept. 1949); 61-2, 64, 66

(Oct. 1949); 93-4, 96, 99 (Dec. 1949); *76*, 63-4, 66 (Jan. 1950); 65-6, 68 (Feb. 1950); 62, 64, 66, 68 (Mar. 1950); 106, 108, 110 Apr. 1950).

Part 4—Preparatory equipment, Part 5—Operating the slasher, Part 6—Picking the lease, Part 7—Drawing-in and tying-in the warp, Part 8—Loom construction, Part 9—Loom construction, Part 10—Loom construction, Part 11—Loom construction, Part 12—Loom construction (the pick motion) and Part 13—The harness motion. See TTD: *6*, 366 for Parts 1-3.

Versatility of synthetics. Anon. *Am. Wool Cotton Reptr. 64*, 83, 120-2 (Mar. 16, 1950).

A variety of interesting and valuable fabric results may be obtained from the use of synthetic fibers due to the wide variation in their characteristics. A discussion on the various effects that may be obtained in fabrics is presented.

Warp and cloth quality. Anon. *Am. Wool Cotton Reptr. 64*, 49-52 (Apr. 27, 1950).

A complete report is presented of the discussion on inspection methods for quality control as applied to the slashing and tying of warps and to the equipment and cloth in the weave and cloth rooms as discussed at the spring meeting of the Eastern Carolina Division of the Southern Textile Association.

Yarn preparation C 1

Checking the slasher operation. John L. Beacon. *Textile Age 14*, 54-8, 60-1 (Mar. 1950).

A discussion is presented of some details for a practical program for controlling waste and eliminating defects in slashing. Included in the discussion are such subjects as section beams, making up the set, beam waste, the size box, etc.

Continuous measurement of size viscosity. Anon. *Instrumentation 4*, 28-9 (Second Quarter 1950).

The installation and operation of a system for the continuous measurement of size viscosity is described. The system utilizes a Visco-Mat measuring head and an Electronik recording instrument.

Dry starch preparations. W. A. Scholten's Chemische Fabrieken. Australian P. 136 912, Oct. 23, 1946.

A dry starch preparation capable of forming smooth, viscous, structureless solutions or pastes useful as adhesives for wood or as a size for finishing paper and textile fabrics, which when

dried on a carrier in the presence of a catalyst, particularly an acid, will form water-insoluble layers, is produced by forming a mixture of a decomposed cold-swelling starch, an aminotriazine and an aldehyde, preferably melamine and formaldehyde or a precondensate thereof. The cold-swelling starch may be etherified or esterfied or treated with aldehyde, and is decomposed by the addition (prior to or during the cold-swelling process) of alkalies, oxidizing agents, acids or acid-producing substances.

Electronic Moist-O-Graph Controller increases production at Startex Mills. W. M. Allison. *Instrumentation 4*, 6-7 (Second Quarter 1950); **Startex Mills boosts slasher output 50% by instrument.** W. M. Allison. *Textile Age 14*, 38-9 (May 1950).

The conversion of slashers, at Startex Mills, from 2- to 3-cylinder units and the addition of instrumentation gave an immediate increase of 50% in production. Other prominent facts observed were: 1) after 10 months operation, instrument chart records revealed a lower steam consumption; 2) operating steam pressures had been reduced; and 3) the Electronic Moist-O-Graph Pneumatic Controller, operating in a cascade system, produced control at constant speed. The cascade control function and operation of the system are described in detail.

Modern slasher drives. Anon. *Textile Industries 114*, 103-14 (June 1950).

The 3 basically different types of slasher drives are: 1) electrical, 2) mechanical, and 3) electromechanical. The design and construction, operation, and maintenance of each type of drive are discussed in detail.

Further developments in slasher sizing. Anon. *Textile Weekly 45*, 1468, 1470 (June 9, 1950).

Describes a new annular-type drying cylinder for slasher and tape sizing machines. The new cylinder is still only 6 ft. in diameter, but consists of an added internal shelf creating an annular space of 3 in. all round the inside of the drum and extending right across the cylinder face. With an area of space only 3 in. to be heated in a 6-ft. diameter drying cylinder of standard width, there is a saving of steam volume between the new and old method of approximately 120 cubic feet; equal efficiency in yarn drying is obtained. Heat loss from the ends of the cylinder is also reduced.

Textile sizing composition. Geo. D. Jefferson & Richard D. Fine (to Atlas Powder Co.). USP

2 495 845, Jan. 31, 1950.

A composition for sizing nylon yarn to prepare it for knitting operations comprises boric acid, a water-sensitive polyvinyl resin, a water-insoluble scourable waxy material, and a non-ionic water-soluble emulsifier for dispensing the wax in an aqueous solution of the resin and boric acid.

Weaving C 2

Adjustable bobbin and battery holder. Wm. B. Cathey. USP 2 513 001, June 27, 1950.

A bobbin holding device for loom batteries comprising a bracket mounted on a loom and having an opening and a plunger slidable in the opening and having a downwardly curved extension at its rear end engaging a bobbin carried by a battery at a point below the center of the bobbin to partially extend under the rounded lower side of the bobbin in a position to exert an upward pressure on the bobbin and a rearward pressure on the battery.

Automatic filling winder is attached to loom. Anon. *Textile World 100,* 137-38 (June 1950).

The Unifil winder, which mounts directly on a loom, is described briefly. The unit replaces the battery and stripping and battery filling are done automatically. The device is said to require no extra floor space, permits elimination of the filling room and needs only 11 quills per loom. Quills are wound to the requirements of each particular loom. Unifil is suitable for single-shuttle work only.

Battery fillers are important people. Wilmer Westbrook. *Textile Industries 114,* 175, 177, 179 (Apr. 1950).

Competent, well-trained battery fillers are of utmost importance in the weave room. Pointers are given on battery filling.

Bobbin replenishing mechanism for looms. Burt A. Peterson (to Barber-Colman Co.). USP 2 510 348, June 6, 1950.

In a bobbin replenishing mechanism for looms having a drive shaft and a detector mechanism responsive to the exhaustion of the shuttle bobbin, the combination of a rotatable magazine having a circumferential series of bobbin holders thereon, a reciprocatory loading device having a series of bobbin receptables, and a driving and control mechanism for indexing the magazine step-by-step and for advancing the loading device to deliver bobbins one-by-one to the magazine, the

driving and control mechanism comprising a driven shaft having a disengageable clutch connection with the loom shaft, means controlled by the detector mechanism for engaging the clutch, and means on the shaft for effecting the disengagement of the clutch.

Compare weaving data. Anon. *Am. Wool Cotton Reptr. 64,* 59, 61, 63 (Apr. 6, 1950).

A condensed report of the discussion on weaving at the spring meeting of the Georgia Operating Executives is given.

Causes and prevention of warp streaks in rayon fabrics. B. Bovy. *Rayonne 6,* No. 1, 75-7, 79 (1950); *in French.*

Warp streaks, which occur frequently in viscose rayon fabrics may be caused in spinning, sizing, winding, warping, weaving, and dyeing. Suggestions are given on how to detect the factor which causes the defect.

Device for the formation of center selvedge. J. Picanol. Australian P. 137 019, Apr. 2, 1947.

A device for the formation of a center selvedge in a fabric, comprises a combination of 3 juxtaposed laths adapted for a straight up-and-down movement, one lath having 2 eye-needles for guiding vertically a first pair of warp-yarns, the 2 other laths guiding 2 other pairs of warp-yarns vertically and transversely, whereby the latter are placed alternately at the left and at the right of the needles before their downward movement.

Dividing of warp stop motion blades from a series of blades. Henrich Meier (to Zellweger A. G., Apparate-und Maschinenfabriken Uster). USP 2 512 165, June 20, 1950.

In a device for dividing warp stop motion blades from a series of blades, the combination with a row of warp stop motion blades constituting the series of blades, a support extending in the direction of the blade row for sustaining the row for the individual blades to be removable in the direction, dividing means for exerting attractive removing power on the foremost blade in the row, of a knife having a knife edge for cooperation with the dividing means, and screw means for adjusting the distance between the dividing means and the knife commensurate with the thickness of the blades, the knife edge cooperating with the dividing means by inter-engagement with the series of blades at the distance behind the foremost blade in the series.

Harness guide. Francis G. Lake & Everett H. Ashton (to The M. W. Kellogg Co.). USP 2

510 404, June 6, 1950.

In a loom having spaced loomsides, a harness between the loomsides including a frame member, a treadle motion connected to the bottom of the frame member adapted to pull the frame member downward into a shed forming position, a head motion connected to the top of the frame member adapted to pull the frame member upward into a second shed forming position, the head motion adapted to exert its pulling effect vertically and without substantial lateral components, the treadle motion adapted to exert its pulling effect vertically but with substantial lateral components, a guide member at each side respectively of the frame member and carried by the loomsides, and a guided member carried at each side respectively of the frame member adjacent the bottom thereof, the guide members and the guided members cooperating to restrain the bottom of the frame member against lateral movement while imposing no restraint on the lateral movement of the top of the frame member.

Harness stop motion. Hormidas Laplante. Can. P. 462 314, Jan. 10, 1950.

In a loom, a harness frame, normally taut suspension means for operating the frame, including an electrical conducting connector, an electrically operated stop motion for the loom, an electric circuit for the stop motion, the connector being in the circuit forming a first contact, a second contact in the circuit spaced from the first contact and positioned adjacent the connector and engageable by the connector to close the electric circuit to the stop motion, when the suspension means become slack or broken.

Hydraulic loom check. Roy O. Balogh (to The Weatherhead Co.), Can. P. 462 414, Jan. 10, 1950.

A hydraulic check device for the picker staff of a loom comprising a fluid reservoir, a pair of cylinders each having one end closed and the other end opening to the reservoir, a piston in each cylinder, means to by-pass fluid from each cylinder to the reservoir, means to close off the associated by-pass means as a pistion moves a substantial distance into a given cylinder, means for operatively connecting the pistons to the picker staff so that as one piston enters its cylinder the other is withdrawn from its cylinder, and fluid metering means operative to check motion of the piston in one direction after the associated by-pass has closed, the fluid metering means comprising a fluid passageway leading from one cylinder to the reservoir formed in one of associated piston and

cylinder means, and means carried by the other of the associated piston and cylinder means for progressively closing off the passageway in proportion to the position in the cylinder as the piston continues to enter the cylinder.

Jacquard card repeater. Osbert Hughes. *Textile Industries 114*, 116--17, 119, 121 (June 1950).

An outline is presented of some of the potential uses of a Jacquard card repeating machine in reducing the designing and card-cutting costs in Jacquard plants.

Loom frame and parts. Jas. M. Tuten (to Draper Corp.). USP 2 504 939, Apr. 18, 1950.

An improved loom frame including frame reinforcing members providing improved bearing supporting means for movable parts of the loom and means for stiffening the framework of a loom in critical portions thereof and for reducing vibration incident to loom operation.

Loom harness. John J. Kaufman (to Steel Heddle Mfr. Co.). USP 2 511 822, June 13, 1950.

In a loom harness including a heddle frame having top and bottom rails, heddle supporting rods comprising thin flat metallic strips mounted in the frame, and heddles mounted in the frame, and heddles mounted on the rods and adapted to be freely movable on the rods without obstruction, the means for supporting the rods intermediate the ends thereof comprising an auxiliary bar adjacent each of the heddle rods and having a portion extending inwardly from the inner edge of the rail, and the provision, at each location, of a bracket member carried by and fixedly secured to the rod and extending from one side face thereof and the bracket member having the inwardly extending part detachably engaging a portion of the auxiliary bar, the auxiliary bar extending substantially the full length of the frame and being secured thereto only at points adjacent the ends thereof.

Loom picker. LaRocque Mfg. Co., Inc. Australian P. 136 986, Dec. 18, 1947.

A picker constructed of magnesium comprises a sleeve portion with a hard metal lining, an integral flat thin body portion projecting horizontally forwardly from the sleeve portion and a picker stick bearing portion projecting vertically above and below the body portion. The bearing portion has a vertically convexed picker stick abutting surface and a picker head portion is provided on the front end of the body portion having an inwardly facing socket for receiving

a replaceable resilient picker head.

Lowering the cost of loom bobbins. H. E. Wenrich. *Rayon & Syn. Tex. 31,* 47-8 (July 1950).

Imperfections in weaving are often caused by slight breaks or other defects in filling bobbins. The importance of good bobbins in preventing such imperfections is stressed and a machine for polishing and refinishing bobbins is described.

New loom ideas persist. Anon. *Am. Wool Cotton Reptr. 64,* 31, 33, 176-78 (May 4, 1950).

Ideas for improvements in present day looms and the limitations that govern these improvements are discussed. A high speed mechanism with side place cones and a magnetic gripper for weaving synthetic yarns is also discussed.

New loom winder tops machine show interest. Anon. *Am. Wool Cotton Reptr. 64,* 19-20, 31 (May 11, 1950). **Show attendance breaks all previous records.** *Am. Wool Cotton Reptr. 64,* 11-14, 40 (May 18, 1950).

Highlights of the American Textile Exhibition are described with details of the Unifil loom winder given.

New shuttle bonding technique. E. M. Wharff & J. Schlig. *Textile Age 14,* 44-5 (May 1950).

Weaving shuttles, usually made of dogwood or persimmon wood are reported to have longer life by surfacing the shuttle on 2 or more sides with hard fiber sheet. An electronic dielectric heating technique, using a radio-frequency generator plus an automatic hydraulic press, have been adapted to shuttle bonding to improve the quality of the bond, reduce its cost, and increase production. A description is given of the new technique with accompanying illustrations.

Rayon and cotton in blends and mixtures. R. S. Greenwood. *Can. Textile J. 67,* 62-3 (June 23, 1950).

Describes in detail some of the ways in which cotton and viscose rayon may be used in a complementary manner in the same fabric, in regard to texture and its ultimate end use.

Rayon weaving efficiency. Anon. *Am. Wool Cotton Reptr. 64,* 35, 44 (Mar. 23, 1950).

Observations on American warping, winding and weaving practices by a British mission are described.

Reed setting gage for looms. Clifford Darwin (to Crompton & Knowles Loom Works). USP 2 511 496, June 13, 1950.

In a loom having a take-up and a lay provided with a swing reed, gage means for determining the position of the reed relatively to the lay comprising 2 indicator members capable of registry with each other, one of the members being on the lay and the other member moving with the reed and having the position thereof with respect to the member on the lay when the latter is on front center determined by the fell of the cloth, manual operation of the take-up when the lay is on front center effecting a change in the relative position of the members to effect registry of the latter.

Renewed interest in cut meters. Anon. *Textile Industries 114,* 127-29 (Apr. 1950).

New and advantageous use of the cut meter on looms as reported in a spun rayon plant, filament rayon plant, drapery and upholstery mill, specialty mill, and heavy goods mill are described. Other uses for cut meters are also given.

Shuttle drive mechanism. Bertram J. Goldsmith (to Royal Swan, Inc.). USP 2 511 773, June 13, 1950.

An improved shuttle drive mechanism.

Special rayon crepe. Anon. *Am. Wool Cotton Reptr. 64,* 9-10 (June 1, 1950).

Rayon crepe fabrics containing acetate-type warp yarns with little or no twist and hard-twisted regenerated-type filling yarn are softer, more flexible fabrics with an interesting corded appearance. Shrinkage in the filling yarn produces the fabric flexibility. Details for producing this special rayon crepe are given.

Speckled satin crepe. Anon. *Am. Wool Cotton Reptr. 64,* 9, 10, 44 (May 11, 1950).

A speckled satin crepe fabric is analyzed, the face of which is much softer and more generally irregular than in many of the hammered satins and the back of which is harder. The crepe contains an acetate warp which has no twist in the yarn and gives the fabric its soft draping quality. The filling is composed of 2 ends of normal twisted regenerated yarn which are thrown together and given a hightwist.

Thread control for weft replenishing looms. Geo. N. Peterson (to Crompton & Knowles Loom Works). USP 2 510 603, June 6, 1950.

In a weft replenishing loom having a thread holder tensioning the weft end extending from the tip of a bobbin in a reserve bobbin magazine, bobbin tip support means on the magazine defining a thread passage through which the weft end passes downwardly when the bobbin is trans-

ferred, and flexible resilient means mounted on the bobbin support means extending across the passage yielding to permit downward movement of the weft end and effective to prevent upward movement of the weft into the passage subsequent to transfer of the bobbin.

Woven fabric and method of making same. Sidney Gluck. USP 2 512 494, June 20, 1950.

A method of weaving reinforced fabric upon a loom having a let-off for successively releasing predetermined lengths of warp threads and a reed for beating the filler threads into place comprising, weaving a predetermined length of fabric by the successive steps of shedding, laying a filler, let-off and beating, then while holding back the let-off shedding less than the usual number of warp threads, inserting a reinforcing cord in the shed and beating, again shedding less than the usual number of warp threads, inserting a second reinforcing cord in the shed and beating, then resuming the first sequence of shedding, laying a filler, let-off and beating.

Knitting C 3

Article of hosiery and method of making the same. Paul L. Thurston (to Interwoven Stocking Co.). USP 2 512 728, June 27, 1950.

An article of circular knit seamless hosiery comprising leg and instep portions formed of inwardly facing stitches and outwardly facing stitches arranged in predetermined sequence, the number of outwardly facing stitches exceeding the number of inwardly facing stitches, heel and toe portions formed of outwardly facing stitches and an integral sole portion formed of consecutive courses of consecutive inwardly facing stitches.

Circular knitting machine. Interwoven Stocking Co. Australian P. 136 829, Apr. 26, 1946.

A double cylinder knitting machine includes means for operating needles of pattern controlled mechanism selectors for transferring selected needles from one cylinder to the other to form inwardly and outwardly facing stitches in predetermined sequences in selected needle walls of a fabric and instrumentalities, such as terry bits, to draw longer loops of one thread than another to form portions of terry fabric. A method of knitting and a seamless article of hosiery having leg and instep portion knit of a thread to form inwardly and outwardly facing stitches occurring in predetermined sequences in each of a plurality of selected courses and having selected portions of threads knit to form body stitches

and terry loops, are also claimed.

Circular knitting machines. Anon. *Am. Wool cotton Reptr. 64*, 11-12, 17 (Mar. 23, 1950).

A digest from the book "Pattern Wheel Designing for Circular Jersey Knitting Machines" by Abraham Abrams and Lester Mishcon is presented. This first article explains the elements and needle positions for knit, tuck, welt and cast-off stitches in jersey cloth.

Collarette fabric. Carroll R. Anderson (to Munsingwear, Inc.). USP 2 511 685, June 13, 1950.

In a knitted garment having a body portion, in combination therewith a knitted neck band and knitted cuff portions which are more elastic than the body portions, one at least of the knitted neck band and cuff portions comprising a rib knit wherein each stitch comprises nylon thread and cotton thread, the cotton thread being plated over the nylon thread whereby the cotton thread appears on the inner and outer surfaces of the fabric

Design of half-hose. Anon. *Hos. Times 23*, 55-6 (Feb. 1950).

Notes on trends in half-hose design with particular reference to increased use of nylon splicing, demanded by the American and Scandinavian markets, and to color.
HA

Hosiery drying table. Arthur S. Mann & Howard Campbell (to Paramount Textile Machinery Co.). Can. P. 461 762, Dec. 13, 1949).

A drying table for textile articles comprising, a series of drying forms, means for supplying a heating medium to the drying forms, a housing extending below the forms and enclosing a portion of the supplying means, a container extending alongside the housing for receiving the wet articles to be dried, the container being spaced from the housing to form an elongated slot at the upper edge of the container, a casing carried by the table beneath the housing and forming an air chamber communicating with the slot, and means for discharging air under pressure into the chamber.

Experimental electronic device. Anon. *Hos. Times 23* 23 (Mar. 1950).

Note on electronic device in experimental use in Leicester hosiery factory to eliminate manual cutting of chain on flat-lock machines. Device comprises photoelectric cell which operates a guillotine when material passes across the beam

of light falling on it.
HA

Feeder tipping tool for circular knitting machine fixers. Ernest Bridges. *Textile Industries 114,* 143 (June 1950).

Details of a new feeder tipping tool for use on Komet machines are described. A diagrammatic sketch illustrates the old style feeder tipping tool as compared with the new style tipping piece.

Glove manufacture. *De Tex 9,* 136-39 (Feb. 1950); *in Dutch.*

The manufacture of gloves and mittens on flat knitting machines.
HA

Gage for cam steps on Komets. Ernest Bridges. *Textile Industries 114,* 235 (Apr. 1950).

The bolt cam operating cam has 4 operating positions: fully in, fully out, and 2 steps of different heights in the interval. A gage is described and illustrated by a diagrammatic sketch and is designed to permit accurate checking of the respective steps so that any variation may be determined.

Warp tensioning bar. F. N. F. Ltd. Australian P. 137 403, June 8, 1950.

A warp tensioning bar in textile machines includes a resilient cantilever portion extending between a rigid support and a light smooth rail over which the warp threads pass.

Hosiery frame for mending. Florrie E. Salevsky & Henry A. Salevsky. USP 2 509 532, May 30, 1950.

Provides a frame for maintaining a stocking under proper tension while exposing all marked defects simultaneously to the view of the operator, whereby defects ordinarily missed are readily observed and mended.

Hosiery inspection and repair form. Douglas P. Dameron & Floyd R. Shoaf (½ to Shoaf & ½ to Jacob R. Livengood, Jr.). USP 2 510 332, June 6, 1950.

A hosiery inspection and repair form having extending from opposed sides thereof bowed members for stretching the stocking at the proper points, some of the bowed members extending out further at some points along the form than at others so as to stretch the stocking in conformity to its width at various points, and which form is preferably composed of transparent plastic material.

Hosiery length variation. Anon. *Hos. Und. Rev. 33,* 153-5 (Feb. 1950).

Note on length variations and presence of "pinholes" in hosiery, problems which show up after dyeing. Length variations are usually caused during knitting, but may occur during preboarding. "Fish-eyes" also occur during knitting, one cause being excessive stripping of yarn size onto needle.
HA

Hosiery length variation. Anon. *Hos. Ind. Weekly 57,* 1, 23 (Mar. 6, 1950).

Report on study of varying lengths in hosiery, carried out in a North Carolina mill on 15-denier nylon stockings knitted on 11 different machines of 2 different makes.
HA

Hosiery marking equipment. *Hos. Und. Rev. 33,* 141-43 160-62 (Mar. 1950).

Reviews the recent developments in the use of perforation for marking gage, denier, etc., on stockings, and for making lace designs. Perforating attachments for use on fully-fashioned machinery, and independent machines for perforating finished hosiery are described. Illustrations.
HA

Improvised needle detector. Jas H. Blore. *Textile Industries 114,* 231, 233 (Apr. 1950).

A needle detector for latch needle rib machines fittted with electric stop motion for yarn is described and illustrated. The device is helpful in detecting broken needles, large slubs, loose fabric, press-offs, and broken butts.

Knitted structure. Robt. A. Ramsdell (to E. I. du Pont de Nemours & Co.) Can. P. 461, 065, Nov. 15, 1949.

The method of improving the stretchability of hosiery which comprises knitting the hosiery with a composite yarn comprising a permanent nylon yarn and a transitory yarn, and removing the transitory yarn, after permanently setting the hosiery, whereby a yarn having a spring-like structure remains.

Knitting and allied crafts exposition. Anon. *Textile Age 14,* 96-111 (Apr. 1950).

Progress in tricot, circular, and full-fashioned knitting machinery is discussed; and descriptions of the products shown at the Knitting and Allied Crafts Exposition at New York are presented.

Knitting and Allied Crafts Exposition. Anon. *Textile Industries 114,* 203, 205, 207, 211, 213, 215, 217, 219-30 (Apr. 1950).

A directory is given of exhibitors and their products at the Knitting and Allied Crafts Exposition.

Knitting guide and process of knitting. Sydney J. Samuels (to Bernhard Ulmann Co., Inc.). USP 2 511 947, June 20, 1950.

A guide, for knitting initials and other decorative matter into the body of an article as it is knitted, comprising a chart divided into a series of prearranged insignia, each representing a stitch to be worked, a superimposed sheet carrying on its face a series of corresponding insignia as the chart, the superimposed sheet being adhered to the chart.

Knitting machine developments. Anon. *Am. Wool Cotton Reptr. 64,* 167-8 (May 4, 1950).

A brief review is given of knitting machine developments.

Komet links-links machine. J. B. Lancashire. *Hos. Times 23,* 51-5 (Mar. 1950).

Describes the Komet models LL and LT, built by the Bentley Engineering Co., of Leicester, for the manufacture of hosiery incorporating fancy purl and links-links designs. Selecting mechanism is provided for knitting figure designs in leg and instep on the LL model and in strips in ribbed top on the LT model: "double pattern" attachment can be applied to the latter to allow patterning in leg and instep. A new elastic feed unit insures successful laying in of elastic yarn in ribbed top.
HA

Manufacture of hosiery. Edw. J. Siegrist (to Holeproof Hosiery Co.). USP 2 513 113, June 27, 1950.

The method of manufacturing hosiery which comprises fabricating the body of the hose from one kind of textile yarn in its natural color, thereafter sewing the edges of the body with a different kind of textile yarn in its natural color to form a longitudinal seam, thereafter subjecting the hose in a single dyeing operation to a plurality of different dyes, each of which dyes is particularly adapted to act on only one of the kinds of yarns, thereby to provide a hose wherein the seam has a color different from that of the body of the hose.

Manufacture of knitted ware true to shape. Fritz Seiler (to Textile Researches Ltd.). Can. P. 462 404, Jan. 10, 1950.

A method of manufacturing knitted ware true to shape, with or without fancy effects and the like and with or without reinforcements, in which the

ware is knitted by automatic means in its longitudinal direction, being given its proper shape by means of wedge-like loop course.

Men's hosiery. J. B. Lancashire. *Brit. Rayon & Silk J. 26,* 64-5 (May 1950).

Included in this discussion of some modern developments in manufacturing methods are: knitting of "Argyle" half-hose, single cylinder automatic machines, use of compound needles, elastic insertion on double-cylinder, and fancy half-hose.

Process for making seamless panties. Geo. Lacks. USP 2 511 720, June 13, 1950.

A method of making panties or the like 2-legged garments, the method comprising making a leg by circularly knitting over a number of needles arranged in a circle, then idling needles along an arc of the circle, continuing knitting reciprocatingly over the remaining needles and thereby making an extension extending from an arc of the leg, then activating the idled needles, continuing knitting circularly and thereby making the other leg, the start of the latter circular operation engaging the meshes positioned on the temporarily idled needles whereby a narrow crotch-connection is made between arcs of the legs, and the extension connects the remaining arcs of the legs over a considerable longer distance, then connecting one half of each edge of the extension to the other half of the edge and thereby transforming the extension into a pocket having a closed line at that end which is far from the legs, and then cutting through the line.

Setting apparatus for textile fabrics. Henry Richter (to Paramount Textile Machinery Co.). Can. P. 461 641, Dec. 6, 1949.

The combination in setting apparatus (preboarding machine) of a retort having a door opening, a reversible door located at all times within the retort for closing the opening with either face of the door directed outwardly, and forms mounted on both faces of the door for supporting textile articles.

Stitch regulating mechanism. Eugene St. Pierre (to Hemphill Co.). USP 2 510 916, June 6, 1950.

A stitch regulating mechanism for a circular, multi-feed, independent needle, knitting machine having independently movable knitting cam plates which includes a support for the plates, means for fixing the position of the support, individual means associated with the support for varying the positions of each of the plates in re-

lation to the support, means intervening between the support and one of the varying means for raising the one of the varying means in relation to the support and means for removing the intervening means from between the support and the last mentioned varying means.

Stitch-shaped garments. 8-Garment making on the Mellor Bromley 3/RLQTS/1 Model. J. B. Lancashire. *Hos. Times 23,* 29-33 (Feb-1950).

HA

Stocking having a contrasting seam and method of producing same. Saml. L. Dills (to Grey Hosiery Mills). USP 2 512 489, June 20, 1950.

The method of providing a stocking having a seam which contrasts in appearance with the dyed finished stocking comprising, stitching a seam in the stocking by incorporating a seam thread which will be affected by the dye in the finished stocking, incorporating a dye resistant seam thread having a contrasting appearance, and dyeing the finished stocking.

Subtleties of toned tweed knitwear. W. Davis. *Hos. Times 23,* 37-8, 45 (Feb. 1950).

Describes, with examples, method of producing ranges of color in which the degree of tone differs between the various constituents.

HA

Technical symposium highlights knitted outwear meet. Anon. *Textile Industries 114,* 151, 153 (June 1950).

A summary of the technical forum conducted at the National Knitted Outwear Association's annual convention is given.

Treating textile articles. L. Heldmaier & Brit. Schuster Co., Ltd. Brit. P. 589 967, Oct. 20, 1944.

Stockings and other shaped textile articles are mounted on forms and carried on an endless conveyor through a pre-boarding chamber where they are subjected to the action of live steam and hot air heated by means other than the steam. The articles are placed on forms carried by an endless belt conveyor and are sprayed with hot or cold water in a box. After travelling a distance to allow the water to impregnate the articles, the latter are sprayed with hot water in a box. The forms then pass through squeezing rollers and enter a steam-treating chamber through a steam-tight seal formed by rollers or shutters. The chamber receives a supply of live steam which may be supplemented by additional heat from air heated by electrically heated elements within the chamber, or by an oven at the side thereof. The articles pass out of the chamber and through a drying chamber to an unloading point.

Treating textile fabrics. L. Heldmaier & Brit. Schuster Co., Ltd. Brit. P. 589 976, Jan. 26, 1945.

In a method of treating stockings and other knitted articles of nylon or a similar polyamide resin, the articles are placed on forms mounted on an endless conveyor and carried through a pre-boarding chamber in which they are subjected to the action of live steam and hot air heated by means other than steam, and are impregnated with dye after having been placed on the forms and prior to their entry into the pre-boarding chamber. The apparatus employed may be as described in Brit. P. 589 973, and the dye may be sprayed upon the articles in one or both of the spray boxes described.

Treating textiles. L. Heldmaier & Brit. Schuster Co. Brit. P. 589 973, Jan. 26, 1945.

Apparatus for preboarding stockings and other shaped textile articles of polyamide type resin, silk, or cellulose acetate, as described in Brit. P. 589 967, is provided with means for supplying live steam to the pre-boarding chamber and one or more gas heaters for supplementing the heat of the live steam.

Treating textiles. L. Heldmaier & Brit. Schuster Co., Ltd. Brit. P. 589 975, Jan. 26, 1945.

In a method of pre-boarding or plasticizing stockings and other shaped textile articles of polyamide resins, silk, or cellulose acetate, the articles are carried on forms by an endless conveyor through a pre-boarding chamber where they are subjected to live steam and heat. The length of the pre-boarding chamber relative to the speed of the conveyor and the degree of heat and/or the temperature gradient within the chamber are so arranged that the articles emerge from the chamber sufficiently dry to avoid the necessity of further drying. See also Brit. P. 589 967 and Brit. P 589 973.

Treating textiles. L. Heldmaier & Brit. Schuster Co., Ltd. Brit. p. 589 975, Jan. 26, 1945.

In a method of treating stockings and other knitted articles made of nylon or a similar polyamide resin, in which the articles are carried on forms by endless conveyor through a pre-boarding chamber in which they are subjected to the action of live steam and hot air heated by means other than the steam, the articles, after having

been placed on the forms and prior to their entry into the pre-boarding chamber, or on leaving same and while still on the forms, are impregnated with a delustering, a filling compound or with a known "anti-snag" compound. The apparatus described in Brit. P. 589 967 or Brit. P. 589 973 may be used, and the compound may be sprayed prior to entering the pre-boarding chamber, or in the box, or in both.

True 1 x 1 rib fabrics knit on single cylinder machine. Harry Wignall. *Textile World 100,* 114-15 (June 1950).

Diagrams and explanations illustrate how a 1 x 1 rib fabric can be knit on a single cylinder machine. Advantages of such a set up include: 1) striping of the rib can be simpler, 2) threads can be visible and simple to thread up on wrap-stripe rib machines, 3) an open top machine may be possible, and 4) mechanical adjustments may be simpler.

Warp knitting technology. Part III. D. F. Paling. *Brit. Rayon & Silk J. 26,* 55-7 (May 1950).

The texture or quality of a warp knitted fabric is dependent upon a variety of factors, and the number of courses and wales per inch will vary considerably from the grey to the finished state. The main factors controlling the quality during the knitting action are 1) the rate at which the fabric is drawn away from the needles, and 2) the amount of tension applied to the warp threads. Points 1 and 2 are discussed in detail. For previous articles in this series see Part 1, TTD: *7,* 470, and Part 2, TTD: *7,* 546.

Drive for hosiery machine. Chester W. Drake (to Can. Westinghouse Co., Ltd.). Can. P. 461 871, Dec. 20, 1949).

A speed control system for a variable speed machine, comprising, an induction motor for driving the machine, variable resistance means in the rotor circuit of the induction motor, a generator mechanically coupled to the motor including a variable resistance means in series circuit therewith, and means for simultaneously and progressively, varying both of the resistance means in an inverse manner, for selectively varying the speed of the motor.

Special fabrics C 4

Conveyor belt. Gail G. Grigsby. USP 2 511 581, June 13, 1950.

A conveyor belt comprising 2 layers of elastic material, a plurality of organic fabric layers imbedded therebetween and a metallic reinforced organic fabric layer carried between at least 2 of the organic fabric layers, the reinforced organic fabric layer comprising a plurality of organic warp strands crossed by and interwoven with a plurality of organic woof strands and a plurality of metallic woof strands interwoven with the organic warp strands at spaced intervals therealong.

Electric blanket sewing machine. Chas. E. Johnson & Edw. E. Woller (to Simmons Co.). Can. P. 463 227, Feb. 14, 1950.

In apparatus of the class described, the combination of means for supporting portions of a pair of blanket material plies in slightly spaced, face-to-face relationship with the edges of the portions in predetermined juxtaposition, the supported portions extending from side to side of the plies, thereby to facilitate the introduction of an electrical conductor between the plies and inter-attachment of the latter along the edges, and means for successively advancing the blanket plies to present successive portions of the plies to the supporting means.

Flock distributing apparatus. Harold Fountain & John J. Murphy (to United Merchants & Mfrs., Inc.). USP 2 510 625, June 6, 1950.

A flock feeding apparatus for use in connection with the application of flock to adhesive-coated backing in the manufacture of simulated pile fabric and the like.

Flocking cement and method of flocking. Robt. W. Mitchell (to B. B. Chemical Co.). USP 2 511 171, June 13, 1950.

A method of flocking comprising applying a stencil to the surface of a fabric, coating the exposed portions of the fabric with an adhesive comprising droplets of a latex from the group consisting of copolymers of butadiene and styrene comprising from 1% to 50% styrene, and natural rubber, the latex being dispersed in a continuous non-aqeous phase which includes a solution of a hardenable material from the group consisting of drying oil, drying oil-modified alkyd resin, and mixtures of these in a blend of volatile aromatic and aliphatic solvents for the hardenable material in the ratio of from 75:25 to 25:75, a solvent insoluble mineral filler dispersed through the solution, the ratio by weight of the solids content of the latex to the hardenable material being from 1:1 to 5:1, removing the stencil from the surface of the fabric and adhering flock to the adhesive on the surface of the fabric.

Gripper mechanism of Axminster carpet and other tufted-fabric loom. Cecil C. Brinton (½ to Brintons Ltd.). Can. P. 461 677, Dec. 6, 1949.

Gripper mechanism for Axminster carpet and other tufted fabric looms, comprising a beam journalled by its ends within the frame of the loom, a plurality of rows of grippers mounted upon the beam at equi-angular intervals around the beam periphery, means for sliding each row of grippers in a path at right angles to the axis of the beam, means for opening and closing the grippers, and means for rotating the beam through angular steps equal to the spacing of the rows of grippers.

Hemostatic alginic surgical dressings. Jas. J. Eberl & Wm. L. George (to Johnson & Johnson). USP 2 512 616, June 27, 1950.

A hemostatic surgical dressing comprising fibers consisting of a calcium alginate partially converted into alginic acid and containing from about 3% to about 4.5% calcium.

Manufacture of blankets, blanket material, felt substitutes and carpet material. Arthur P. Benthall (to Bird & Co.). Can. P. 462 350, Jan. 10, 1950.

A process for the manufacture of a differentially woolenized jute fabric, which comprises weaving the fabric with a hard-spun relatively thin but strong warp and a relatively thick loosely-spun weft, whereby a woven fabric is produced in which the greater part of the visual bulk of the material is constituted by the loosely-spun weft, which weft is thus in a condition which can more readily be acted upon by the caustic to be subsequently used and can more easily be "nap raised", subjecting the so-woven fabric to a treatment with caustic until the weft is substantially completely woolenized, washing out the excess caustic before any appreciable woolenizing of the warp takes place, and submitting the resultant fabric to a "nap raising" treatment.

Many new fabrics introduced. Anon. *Am. Wool Cotton Reptr. 64*, 17, 42 (May 18, 1950).

A brief review of some of the new fabrics, such as Nylaine, Fiber V fabrics, etc. is given.

Mechanism for weaving seersucker cloth. Omer Bourque (to Grosvenor-Dale Co., Inc.). Can. P. 463 189, Feb. 14, 1950.

In a loom, in combination, a harness, a beater, a beam for crinkle warp, a beam for ground warp, means to positively drive the beam for crinkle

warp to feed the warp therefrom, a cradle, means to oscillate the cradle while supplying crinkle warp thereon toward the harness, the warp being tensioned by movement of the cradle, the last-mentioned means having a quick release member for quickly supplying an excess of crinkle warp in slack condition to the harness, means for controlling the positive feed of the crinkle warp from the beam in accordance with tension of the crinkle warp on the cradle, and means for moving the beater to beat up the slack warp with ground warp to form the cloth.

Microporous product and method of making. Jas. J. Raymond & Wm. H. Lehmberg (to American Felt Co.). Can. P. 462 194, Jan. 3, 1950.

A method of making microporous sheet material, which includes the steps of felting selected loose wool fibers into interlocking relation in a felt sheet, filling the felt sheet under pressure with an uncured elastomer and thereby producing a solid self-sustaining matrix with the wool fibers solidly embedded therein, curing the elastomer filling of the sheet, and then dissolving the wool fiber, thereby producing a flexible sheet of chamois-like texture having pores left by the fibers removed from the otherwise solid matrix.

Multineedle chenille machine. Walter A. Behrens (to Pathe Tool Mfg. Co., Inc.). USP 2 513 261, June 27, 1950.

In a chenille machine, a book and knife unit comprising a collar adapted to be mounted on a unit-actuating shaft, a plate pivoted to the collar, means for releasably locking the plate to the collar, a hook removably carried by the plate in a fixed position thereon, an element mounted on the plate for reciprocation therealong, a knife adjustably and removably mounted on the reciprocable element for actuation thereby toward and away from the hook, a rockable element mounted on the plate for actuating the reciprocable element, and a slot in the rockable element for receiving an actuating means for the rockable element.

Non-woven fabrics take on new stature. Ralph M. Davenport. *Am. Wool Cotton Reptr. 64*, 53, 55 (Mar. 16, 1950).

Highlights of the progress made in the nonwoven fabric field in the past twelve years are reviewed, and the uses for nonwoven fabrics are described.

Pile fabric. Walter A. Rice (to Mohawk Carpet Mills, Inc.). USP 2 512 727, June 27, 1950.

A pile fabric which comprises a base of yieldable

material, the top surface of the base being irregular and having a multiplicity of crests and depressions, a light open mesh fabric secured to the top surface of the base by an adhesive, the fabric lying in contact only with the tops of the crests in the surface and bridging the depressions and the adhesive filling the depressions and the openings in the fabric and forming a film over the exposed surface of the fabric, and substantially erect pile fibers of substantially uniform height having their ends embedded in the film to a substantially uniform depth and to approximately the level of the fabric.

Pile floor covering. Jas. N. Dow (to Bigelow-Sanford Carpet Co., Inc.). USP 2 510 563, June 6, 1950.

A broad width pile carpet composed of narrow strips of carpet, each strip having a selvedge edge seamed by a tape to the abutting selvedge edge of an adjacent strip, each of the strips having in the body portion thereof wefts, binder warps, stuffer warps and pile elements, and having a selvedge portion comprising a selvedge cord and a row of selvedge pile elements, in which selvedge portion certain of the type of warp present in the body of the carpet are omitted, the selvedge cord being snugly adjacent the roots of the selvedge pile elements, whereby the outward flare of the pile adjacent the selvedges of the abutted edges of the carpet strips conceals the seam between the strips.

Porous rubber rain coating. Anon. *Rayon & Sny. Tex. 31,* 83 (July 1950).

Note: Goodyear Tire & Rubber Co. has developed a fabric, called Vapotex, that breathes body vapors to end this kind of discomfort. The product is a result of a Goodyear-Army Quartermaster research project. Almost any textile—cotton, rayon, or nylon—is coated on one or both sides with an oil-resistant synthetic rubber, its surface dotted with minute pores, about 2.5-million of them to a square inch. These pores are big enough to pass off heat from the body. But the surface tension of rain falling on the fabric prevents the rain water from passing through holes this small. These treated fabrics can be either washed or dry cleaned.

Production of fabrics from alginic materials. John B. Speakman & Norman H. Chamberlain. (to Alginate Industries, Ltd.) Can. P. 463 137, Feb. 14, 1950.

A process for the production of alkali-resistant fabrics from alginic materials, comprising the steps of first producing alginate rayon of alkali soluble type, then manufacturing fabric therefrom and thereafter converting the alkali souble alginate of the fabric to alkali-resistant alginic material.

Reinforced woven laundry net. Jack A. Liss (to G. S. Robins & Co.). USP 2 511 644, June 13, 1950.

A laundry net comprising a body portion of nylon leno woven so as to contain openings of approximately .03 of an inch by .018 of an inch, some of the threads of the weave being substantially larger than the remaining threads and arranged systematically in the weave, a more closely woven border, and attached to the border a webbing more loosely woven than the body portion and adapted to receive a pin closure.

Ribbon. Wm. Whithead (to Camille Dreyfus). Can. P. 462 423, Jan. 10, 1950.

Proces for the production of ribbons adapted to be employed in typewriters, and the like, which comprises weaving a ribbon of high-tenacity, regenerated cellulose yarns formed by tretching and saponifying yarns having a basis of an organic acid ester of cellulose, subjecting this ribbon to a shrinking treatment employing an aqueous solution of an alkali metal hydroxide as the shrinking agent, and then impregnating the shrunken ribbon with an inking composition.

Room heater. Clark M. Osterheld (to McGraw Electric Co.). USP 2 511 540, June 13, 1950.

An electrically-heated floor rug for heating rooms.

Staple fibers. Frederick G. Dodge & Geo. Schneider (to Camille Dreyfus). Can. P. 461 799, Dec. 13, 1950.

Process for the production of a batting material of loosely matted staple fibers, wherein the migration of the staple fibers is restrained, which comprises interprosing a battaing material formed of loosely matted thermoplastic staple fibers between layers of fabric, subjecting local areas of at least a fabric layer of the assembly to the action of a sharp instrument to pierce the fabric layer and simultaneously applying to the local areas a volatile liquid which has at least a softening effect on the thermoplastic staple fibers, whereby the volatile liquid comes into immediate contact with the staple fibers and the fabric and effects a softening of the thermoplastic staple fibers and on the evaporation of the volatile liquid causes the staple fibers to be locally anchored to each other and to the fabric.

Tuft-cutting mechanism for Axminster-carpet and other tufted-fabric looms. Cecil C. Brinton (½ to Brintons, Ltd.). USP 2 512 302, June 20, 1950.

Tuft-cutting mechanism for Axminster carpet and other tufted fabric looms, comprising a support, a knife comb mounted on a face of the support, a movable cutter comb sandwiched between the support and the knife comb, the cutter comb and knife comb each being built up from a gang of plates arranged in end-to-end contact, each plate being formed along one edge with a series of teeth, the toothed edge of each knife comb plate registering with the toothed edge of a cutter comb plate and adjustable spring pressure acting on each knife comb plate in the locality of its toothed edge and in the direction of the support, the comb supporting face and the adjacent face of the 2 comb assemblies being formed with depressions along the length thereof for minimizing friction between the movable cutter comb, the face and the knife comb, and means for reciprocating the cutter comb assembly length-wise of the support for effecting its tuft cutting strokes.

Weft stop motion for narrow ware looms. Allan S. Hutchins (to Crompton & Knowles Loom Works). USP 2 512 428, June 20, 1950.

In a weft detecting system for a narrow ware loom having a lay provided with shuttle blocks, a normally open electric switch on the lay in front of one of the blocks, a shuttle moving to the one block from another block during loom operation, a detector on the shuttle normally held in non-stopping position away from the switch by the weft in the shuttle when the weft is taut but moving to stopping position when the weft breaks or is unduly slack, the detector when in stopping position and due to motion of the shuttle from the other block to the one block effecting closure of the switch, and means effecting loom stopping incident to closure of the switch.

Woolenized jute fabric. Arthur P. Benthall (to Bird & Co.). Can. P. 462 208, Jan. 3, 1950.

A woolenized woven jute fabric having a thick and loosely-spun jute weft and a thin and hard-spun but otherwise untreated jute warp, the bulk of the weft being considerably greater than that of the warp, the weft having been substantially completely woolenized prior to weaving whereby the surface of the fabric is constituted primarily of woolenized weft.

Woven combined fabric body and pad and method of weaving. Harold P. Faris & Bernard R. Koenig (to Prodesco, Inc.). USP 2 511 500, June 13, 1950.

This invention relates to an improvement in pads for carpets, or other woven fabrics, which may be woven separately from the fabric or as a composite part therewith, in which the body portion of the fabric is formed of the body of the pad and the method of weaving the pad or the pad together with the overlying or decorative face of a fabric combined with a pad.

Fabric applications C 6

Bag feed mechanism. Raymond Althoff (to Bagomatic, Inc.). USP 2 512 048, June 20, 1950.

In apparatus for forming the free edges of a piece of folded bag material into a double fold adapted to be sewed by a sewing machine to form an export seam, in combination, separating means for separating the free edges of the bag material, first fold-forming means for receiving one of the free edges of the material from the separating means and forming a fold in the free edge, second fold-forming means for receiving the other of the free edges of the material from the separating means and forming a fold in the other free edge, first guide means positioned between the separating means and the fold-forming means to maintain the two free edges of the material separated as the material passes from the separating means to the fold-forming means, disengaging means for disengaging the edges from the separating means when the edges have begun to pass over the first guide means, second guide means for guiding the edge folds from the first and second fold-forming means into contact with one another and pressure-exerting means for pressing the folds together to form the double fold.

Hat manufacture. Jones Brothers Pty. Ltd. Australian P. 137 315, June 1, 1950.

Hats having an open mesh for ventilation and light weight are produced by impregnating a knitted fabric with a solution or emulsion of a thermosetting synthetic resin (the pH of the fabric being adjusted if necessary and that of the impregnating medium being such that the dried impregnated fabric is of pH 5 to 9), blocking the material to approximate shape, and finally effecting polymerization of the resin (as by treatment with a solution of oxalic acid in acetone).

Knitted fabrics, employment. Anon. *Hos. Trade J. 57*, 27 (Feb. 1950).

Notes on special uses of knitted fabrics, including meat bags, cleaning cloths for machinery, covers for motor car seat pads, fur coat linings, etc.
HA

Rayon pushes steadily into auto tire field. Wm. A. Karl. *Am. Wool Cotton Reptr. 64,* 9-10, 44 (May 18, 1950).

The development and growth of textile laboratories in the tire industry is traced, and the increasing use of woven fabrics, rayon, and nylon in tire constructions is discussed.

Synthetics future in the automotive industry. N. J. Rakas. *Am. Wool Cotton Reptr. 64,* 63, 65-6, 81 (Mar. 16, 1950).

The increased use of rayon, nylon, vinyon, Orlon, and other synthetics in car upholstery, insulation, and other uses is discussed.

STANDARD FINISHING D

Alkalies in textile processing; practical hints on their uses. Technical Correspondent. *Textile Weekly 45,* 1404, 1406, 1408, 1410 (June 2, 1950); 1472, 1474 (June 9, 1950).

Discusses some of the many ways in which alkalies of various kinds may be used in textile processing. Suggestions are given for the prevention and cure of faults. Processes discussed are: cotton scouring and bleaching, linen scouring, silk degumming, wool treatments, viscose rayon, cellulose acetate rayon, printing, and white discharges on fast grounds.

Bleaching of cellulose fibers. Rudolf Block, Paul Goldsmith, Isaac Schnerb & Kurt Goldsmidt (½ to Palestine Potash Ltd.). Can. P. 463 254, Feb. 14, 1950.

The process of bleaching cellulosic materials by the action of an aqueous hypochlorite vat in the presence of bromide.

Bleaching of cellulosic matter. Rudolph Bloch, Paul Goldschmidt, Isaac Schnarb &Kurl Goldschmidt. Can. P. 463 095, Feb. 14, 1950.

The process of bleaching cellulosic matter with an aqueous hypochlorite liquor, which comprises adding bromide to the bleaching liquor and spreading such addition over at least a great part of the total bleaching time.

Bleaching of cellulosic textiles. Ralph L. Carr (to The Mathieson Alkali Works). Can. P. 463 206, Feb. 14, 1950.

In the bleaching of cellulosic textiles by treating

the textile with an aqueous solution of a chlorite activated by the presence of a hypochlorite and having a pH not less than 7, the improvement which comprises effecting bleaching of the textile with the solution at a temperature in excess of 100°F without appreciably diminishing activation of the chlorite by decomposition of the hypochlorite, the bleaching being effected by impregnating the textile with the solution and steaming the impregnated textile in the presence of only so much of the solution as is retained in the textile, for a period of time sufficient to effect the desired bleaching.

Burling operation simplified. Anon. *Textile Industries 114,* 167 (Apr. 1950).

A burling machine for broad woven woolen fabrics, which permits easy removal of objectionable knots and stains and is operated by one person, is described and illustrated.

Copolymers and method of preparation. Stearns T. Putnam (to Hercules Powder Co.). USP 2 510 902, June 6, 1950.

A copolymer of 10-hendecanoic acid with maleic anhydride is suggested as a textile finishing agent or a sizing additive.

Finishing viscose fabrics. Raffaele Sansone. *Rayonne 6,* 129-34 (June 1950); *in French.*

The process wherein viscose fabrics are simultaneously dyed and finished is discussed. Three examples of typical dye-finish baths are given and the apparatus used in the process depicted and described in detail.

Harris color stripping process. Murray D. Ewing. *Textile Industries 114,* 99-100 (June 1950).

The Harristrip process for effectively stripping wool waste without serious damage to the fibers includes a chemical process and mechanical process. The chemical process replaces the extremely vulnerable disulfide link by a virtually completely stable substitute linkage through the use of ethylene dibromide in alkaline solution. Having protected the fibers, it is then possible to follow with rigorous stripping action without further damage to the fibers.

High-frequency heating apparatus. Maurice F. Davis (to Gen. Electric Co.). USP 2 512 311, June 20, 1950.

In a high-frequency drying apparatus for sheets of yarns, fabric, etc., the ends of the electrodes and their corresponding tubes are sealed so that there is a dry air space between electrode and tube, thus eliminating pin-point arcing and sub-

sequent reduction in the efficiency of the drying apparatus.

Less costly mercerization possible through new instrument. Richard C. Scott. *Textile World 100,* 106, 107 (June 1950).

Joseph Bancroft and Sons has installed a Densitrol liquid-density indicating and recording instrument. This allows continuous checking of the caustic concentration going into the mercerizing bath. This arrangement has saved money on caustic and on customer rejects. Diagrams show the place of the instrument in the set up and the workings of the control system. Tables give facts about the Densitrol and savings possible.

Liquid treating apparatus. S. S. Lord. Brit. P. 589 147, Dec. 8, 1944.

A machine for dyeing, bleaching, etc., comprises a plurality of separate dye kiers each of which is provided with a pump for circulating liquid and a valve for controlling the liquid flow. Each kier has a separate upper open-topped liquid compartment in direct communication with the corresponding compartments of the adjacent kier or kiers and with the remainder of the kier. Valve means in the communications between the liquid compartments enable any one of the compartments to be placed out of or into direct communication with the adjacent compartment or compartments whereby some or all of the kiers may be connected together and used simultaneously for the same treatment or may be shut off from each other for simultaneous use in different treatments.

Marking process. J. Riley. *Power Laundry 82,* 509,-11 (Mar. 10, 1950).

Describes a new laundry marking system known as the Polymark process, for applying temporary identification marks to articles before laundering. Mark consists of tab of thermoplastic fabric which will stand up to laundering or drycleaning conditions: tab is attached by application of solvent, followed by heat and pressure: adhesion takes place over the whole area of the tab, except for a small portion which is intentionally left to allow easy removal after laundering. Tab is loosely woven to allow perfect washing underneath it: printing is by type-ribbon. The process can be used on cotton, linen, wool, and silk, but not on acetate rayon. Operation of the marking machine is described.
HA

Newer detergents and surface active agents. E.

I. Birnhaum. *Can. Textile J. 67,* 50-4 (June 9, 1950).

This is a discussion of early developments, the basic types of detergents and new discoveries. Methods of evaluation of their uses in the textile industry are presented.

Removal of stains in fabrics and garments. Audrey S. Tweedie. *Can. Textile J. 67,* 50-1 (July 7, 1950).

Particulars are given of the correct types of solvents, solutions, etc., and methods for use, for the removal of the variety of stains which may be acquired by fabrics during their manufacture. The essential equipment for stain removal is also noted.

Nomogram—starch mixture calculations. Anon. *Textile Industries 114,* 162-73 (Apr. 1950).

A nomogram for determining ounces of starch per gallon, total pounds of starch required, and gallons of finished starch mix is presented.

Setting of nylon fabrics. G. K. Mechlenburgh. *J. Textile Inst. 41,* P161-75 (Apr. 1950).

Boiling water, pressure steam and dry heat under various conditions are all capable of stabilizing nylon yarn to prevent further shrinkage, and the more severe conditions are able to set nylon fabrics to shape to resist creasing, distortion and fabric shrinkage, provided that the setting conditions used are not exceeded during the subsequent life of the material. The machines and techniques used in setting nylon are discussed and data are given for results obtained under various conditions and by different methods.

Stabilizing of rayon. Gerard Bouvel. *L'Industrie Textile 67,* 224-25 (May 1950).

A method for rendering rayon stable toward the action of alkalies is proposed and discussed wherein the material is treated with a protective material before it is subjected to the alkali treatment. Such a protector may be a resin or colloid which is not easily soluble in alkali and which, because of its presence on the fabric, can modify the action of the alkali.

Textile treating apparatus. Gabriel J. Schlesinger i. e. Gabriel J. Sinclair (to The United Piece Dye Works). USP 2 504 882, Apr. 18, 1950.

Apparatus for stopping the travel of an endless string of material being treated so as to make accessible for inspection a given area of the material as it travels through a tank containing fluid-

treating liquid. The apparatus for accomplishing this result is so constructed and arranged as to be effective for stopping the travel of the endless string within a relatively short time after the stopping mechanism has been set, regardless of the length of the string and the location in the apparatus of the portion of the string containing the area to be inspected.

Treating textiles with liquids. Brit. Celanese, Ltd. Brit. P. 588 700, Mar. 5, 1945.

Wool is recovered from mixed textile materials containing wool and cellulose organic ester fibers by immersing the materials in an aqueous bath containing a saponifying agent for the cellulose ester and an inorganic salt which inhibits the destructive action of the saponifying agent on the wool, until the cellulose ester fibers have been converted into regenerated cellulose fibers and then carbonizing the cellulose fibers in the treated material.

Treating textiles with liquids. Brit. Celanese, Ltd. Brit. P. 589 104, Mar. 5, 1945.

Wool fibers are recovered from a mixture of textile fibers containing wool fibers and cellulose organic ester fibers by soaking the fibers in an aqueous solution containing an organic swelling agent for the cellulose ester and an inorganic swelling agent for the cellulose ester and an inorganic carbonizing agent till the carbonizing agent has penetrated the cellulose ester fibers, drying the treated material, baking it so as to carbonize the cellulose ester fibers, and then washing so as to remove the carbonized cellulose ester fibers. The wool fibers recovered from the mixture may be used in the preparation of woolen and worsted materials. The material may be in the form of a fabric, e. g. one obtained by weaving wool and cellulose acetate yarns or fibers. Decorative effects may be obtained by removing the non-woolen fibers. The mixed textile material may contain cellulose fibers as well as wool and cellulose ester fibers.

DYEING AND PRINTING E

Dyeing

Anti-fume DEN powder. Anon. *Technical Bull.* (DuPont) *6*, 49-51 (June 1950).

Properties of Anti-Fume DEN powder are given. The substance is a water-soluble inhibitor against gas-fume fading of dyed acetate rayon fabrics. The performance of Anti-Fume DEN powder is compared with that of Anti-Fume DE paste.

Automatic process control in textile dyeing and finishing. L. Walter. *Textile Recorder 68*, 71-2 (June 1950).

Extensive application of automatic controls in textile dyeing and finishing has resulted from the need for the greatest possible uniformity of results and the consideration of fuel economy. The present discussion is concerned with dye vat controls and elimination of the "human element", which is considered one of the best arguments for the application of automatic steam controls.

British Terylene presents dyeing problems. Anon. *Textile World 100*, 117 (June 1950).

Terylene is more difficult to dye than nylon or acetate. It has a moisture regain of 0.4% at 65% RH. It also has good resistance to light, weather, chemicals, insects, and abrasion. The half dyeing time at 85°C is a matter of days, but is less at 100°C. Methods to improve the rate of diffusion are being investigated. Two methods of dyeing available are: 1) direct with dispersed dye at high temperature, and 2) modified azoic process. Dyestuffs which dye rapidly on cellulose-acetate fibers are best for Terylene. (A report of an address by A. G. H. Michie before a recent branch meeting of the Society of Dyers and Colorists.)

Continuous processing machine for textile fabrics. Wm. M. Wentz (to E. I. duPont de Nemours & Co.). USP 2 505 657, Apr. 25, 1950.

This invention relates to a multilap, continuous processing machine for textile fabrics or other forms of fibers and is an improvement on USP 2 369 696 (See TTD: *2*, 113).

Current trends in the wool industry. Hans Luttringhaus. *Am. Dyestuff Reptr. 39*, P463-66 (July 10, 1950).

In the wool industry, the current trend is toward increased use of those dyes making possible improvements in one or more of the following factors in dyeing: penetration, uniformity of coverage, fastness to light, fastness to fulling, fastness to peroxide bleaching, length of dyeing cycle or preservation of the wool fiber. Metallized acid dyes, leuco esters of vat dyes and Helindon vat dyes make these improvements possible. Dyeing assistants are now available with which the nylon in nylon-wool mixtures can be more easily left white or dyed tone-in-tone.

Dyeing of acrylonitrile polymers using acetate dyes and M-cresol as an assistant. John C. Richards (to E. I. duPont de Nemours & Co.). USP 2 512 969, June 27, 1950.

A process for dyeing structures prepared from acrylonitrile polymers which comprises treating the structures with an aqueous dye bath containing 1% to 5% by weight of the bath of metacresol and a dispersed acetate dye.

Dyeing polyesters. Imperial Chemical Industries Ltd. Australian P. 136 875, June 2, 1947.

Aromatic polyesters, obtainable by heating glycols of the series $HO(CH_2)_n OH$ where n lies between 2 and 10 with terephthalic acid or an ester-forming derivative thereof, are dyed using fur dyestuffs in aqueous medium.

Dyeing polyesters. Imperial Chemical Industries Ltd. Australian P. 136 876, June 2, 1947.

Aromatic polyesters, obtainable by heating glycols of the series $HO(CH_2)_n OH$ where n lies between 2 and 10 with terephthalic acid or an ester-forming derivative thereof, are dyed, in conjunction with a swelling agent for the polyester, with basic dyestuffs, with leuco-sulfuric esters of vat dyestuffs or by the azoic process.

Dyeing wool. I. E. Noble. Brit. P. 588 454, Feb. 14, 1945.

Wool is dyed with an acid, chrome or metallized dyestuff in the presence of orthophosphoric acid or a soluble acid salt thereof. By partially neutralizing the acid a buffering effect is obtained, particularly within the pH ranges 2-4 and 5-8. In a modification, the dyebath contains both orthophosphoric acid and acetic acid and the pH is buffered by addition of an alkaline substance. Levelling or wetting agents may be present.

Dyeing wool stock, tops, and yarn. I-II. Robt. W. Joerger. *Textile Industries 114,* 130-37 (Apr. 1950); 119, 121, 123, 125 (May 1950).

I. The effect of wool quality and chemicals in dyeing wool stock, tops, and yarn is discussed. The properties of dyes and the theory of dyeing are explained with the influence of temperature, time, and pH control described. Tippy wool is also discussed. Representative machinery for dyeing wool is shown throughout this series of articles. II. The dyeing of wool with acid dyes is discussed, including the following: fastness of acid dyes, acid dyes on loose wool, acid dyes on slubbing, acid dyes on yarns, the classification of acid dyes with dyeing procedures for each group, exhaust studies, and synthetic leveling agents.

Dyeing saponified cellulose acetate. Jean Rosset & Rene Paris. *Bull Soc. Chim. France* No. 3-4, 334-40 (Mar. 1950).

A study of the affinity of saponified cellulose acetate for direct dyes. A heterogeneous saponification with soda and a homogeneous saponification with ammonia were carried out and the dye affinities in both cases determined. Tabular and graphical data supplement the article.

Economy and simplicity in warp dyeing. Anon. *Textile Mfr. 76,* 299 (June 1950).

Describes the special features of a machine in which steaming, washing, bleaching, dyeing and drying can be performed automatically without handling the yarn in any way.

Effect of the "Sanforlan" process on the shade and strength of dyed wool. Anon. *Technical Bull. (DuPont) 6,* 55-61 (June 1950).

Wool dyed with Chromacyl (Special acid), chrome and vat dyes was "Sanforlan" treated and any changes in shade and strength were noted. Results of the tests are given.

Fast dyeing method for synthetic polyamide fibers. Anon. *Am. Dyestuff Reptr. 39,* 475 (July 10, 1950).

In a brief note, the development of a successful fast dyeing method for light and heavy shades of nylon, Orlon, Fiber V and other hydrophobic or synthetic fibers is announced. The process, developed by A. P. Roy for Dean and Sherk, a division of American Yarn and Processing Co., comprises dyeing the synthetic polyamide fibers with hyperthermalized liquid dyebath under pressure. Patent applications for the method and equipment have been filed, and when the hydrophobic or synthetic fibers are available in larger quantities, license to use this method may be granted to other manufacturers.

Fastness ratings for vat dyes on wool. Anon. *Technical Bull. (DuPont) 6,* 78-91 (June 1950).

The majority of DuPont vat dyes were applied to wool flannel and subjected to colorfastness tests. It was found that the vat dyes exhibited good to very good fastness to 3 and 5 washings at 120°F (AATCC No. 1 for wool), AATCC fulling (4½ hrs. at 90°F), crocking and to dry cleaning with Stoddard solvent and Perclene. The fastness to light and chlorination varied widely with the individual dyes. Tables giving the fastness ratings are included in the experimental data.

Fastness of dyeings to carbonizing. Schweizerischer Verband für die Materialprüfungen der Technik, Kommission 25, Richtlinienblatt A

2573. *Textil-Rundschau 4,* 299 (Aug. 1949); *in German.*

A standard method for evaluating fastness to carbonizing consists of treatment for 15 min. at 15-20°C in 7.4° Tw. sulfuric acid or 7.4° Tw. aluminum chloride followed by drying and neutralization under standard conditions.

Fiber properties in relation to knitwear dyeing. 15-Fast shades on acetate rayon. *Hos. Times 23,* 47-51 (Feb. 1940); **16-Wool goods and the acid dyes.** *Ibid.,* 36, 41 (Mar. 1950).

15-Lists groups of dyes available for dyeing acetate rayons and gives details of "concurrent" and "sequential" methods using insoluble azoic dyes which can be formed within the fiber by applying a naphthol and a diazotized base, which will couple to form a colored pigment. 16-Discusses relation of wool fiber structure to dyeing properties.
HA

Improvement of color fastness of dyed cellulose fibers. Geigy Akt-Ges., J. R. Brit. P. 588 990, Mar. 13, 1945.

A non-hygroscopic solid resin for impregnating dyed cellulose fibers is provided. With an aqueous solution of 0.3 g of the resin per liter, the colors are rendered fast to water.

Level dyeing. Irving Teplitz. *Textile Age 14,* 76-81 (Mar. 1950).

The many factors that enter into level dyeing of textiles are reviewed with discussions given on dye distribution, mechanisms of application, dye bath circulation, affinity and migration.

Method of evaluating protective colloids for vat dyeing. Paul Wengraf. *Am. Dyestuff Reptr. 39,* 449-51 (July 10, 1950); *in English. Textil-Rundschau 4,* 328-32 (1949); *in German.*

The mechanism of the action of protective colloids in vat dyeing is discussed with reference to some commercial products. A new method for measuring the protective power of the colloid is described. The method comprises, under standardized conditions, measuring the amount of oxidizing solution (sodium perborate or hydrogen peroxide) necessary to oxidize a given amount of Cibanone Yellow vat in the presence and absence of the protective colloid to be tested.

Molten metal dyeing perfected in England. Fred Brewster. *Textile World 100,* 94-5, 182, 184, 186 (June 1950).

Standfast Dyers & Printer Ltd., Lancaster, England, have perfected the use of a unit employing

molten metal as the medium for fixing the color in the vat-dyeing of fabrics. Cloth is impregnated with dye liquor and then passed through the molten-metal bath where dying is completed and the colors set. Temperature of the metal is 71°C. Matching can be carried out before hand and transferred accurately to the bulk machine. Color changes can be made in 5 minutes. Labor savings are estimated to be at least one operator for long runs of fabrics; more than this for short runs. Illustrated with a diagram of the machine.

New method for the dyeing of superpolyamides. J. P. Neiderhauser. *De Tex 9,* 109-17 (Feb. 1950); *in Dutch.*

Theory and practice of dyeing polyamides with acid dyestuffs. Dyeing of wool/nylon unions is referred to.
HA

Nylon dyeing. *Hos. Und. Rev. 33,* 151-53, 165 (Mar. 1950).

Discusses the experimental work now being carried out on 10-denier monofilament nylon hosiery and the problems of handling and dyeing the new yarn.
HA

Orlon acrylic fiber, nylon and fiber V as effect threads. Anon. *Technical Bull. (DuPont) 6,* 92-109 (June 1950).

Describes experiments in dyeing materials containing Orlon, nylon and Fiber V yarns as effect threads. It was found that: 1) "Orlon" acrylic continuous filament yarn is satisfactory for use as a white effect thread in worsteds which are to be piece-dyed with Chromacyl (Special Acid) or chrome colors; 2) the fiber is not stained significantly when present in cotton which is dyed with vat colors by the "half hose" procedure. It also withstands staining by many vat dyes applied to cotton piece goods by the pigment pad-jig development technique; 3) "Orlon" acrylic fiber resists staining by direct cotton and dispersed acetate colors; 4) dyed nylon yarns resisted with Mordant BS make excellent color effects in cotton fabrics which are vat-dyed by the jig-development procedure; 5) both acetate-dyed and undyed Fiber V yarns are only slightly stained by the 6 vat dyes applied by the pad-steam process and by the pad-jig process; and 6) Fiber V resists staining by acid colors when these colors are used to cross-dye a nylon-Fiber V combination fabric.

Pad dyeing of cellulose derivative fabrics made from sized spun staple fibers followed by de-

sizing. Wilfred T. Normand (to Celanese Corp. of Am.). USP 2 511 938, June 20, 1950.

Process for the coloration of fabrics containing spun yarns of organic derivative of cellulose staple fibers, having thereon a proteinaceous size, in level, even shades free of overdyed surface fibers, which comprises padding the fabrics of the sized spun yarns with a solution of a dyestuff for the organic derivative of cellulose material in an aqueous medium comprising a lower aliphatic alcohol and an inorganic swelling agent for the organic derivatives of cellulose material and then souring the dyed fabric to remove the size therefrom.

Pad dyeing of cellulose derivative fabrics with an alcoholic solution followed by padding with an aqueous thiocyanate solution. Cyril M. Croft & Thos. S. Waller (to Celanese Corp. of Am.). USP 2 511 103, June 13, 1950.

Process for the coloration of textile materials having a basis of an organic derivative of cellulose selected from the group consisting of cellulose esters and cellulose ethers in level, well-penetrated shades, which comprises padding a textile material having a basis of an organic derivative of cellulose with a direct dyeing dyestuff in an aqueous medium consisting of an aqueous solution of a lower aliphatic alcohol, and then as a separate step, padding the dyed organic derivative of cellulose textile material directly and without drying and washing with a relatively concentrated aqueous solution of a salt of thiocyanic acid which is a swelling agent for the organic derivative of cellulose material.

Predetermined position stopping device for textile treating apparatus. Gabriel J. Sinclair (to The United Piece Dye Works). USP 2 504 883, Apr. 18, 1950.

Apparatus for treating textile material, and more particularly a mechanism for stopping the travel of an endless string of material within a known locality in the apparatus so as to make a predetermined portion of the string accessible for inspection.

Reservoir forming roller device for cloth dyeing and like machines. Julien Dungler. USP 2 511 625, June 13, 1950.

In a device equipped with at least 2 cylindrical rollers whose peripheries are in pressure-engagement with each other along the line of contact of the generatrix of the rollers, respectively; means forming a reservoir, the means comprising at least one member engaging the end face of one

of the rollers and rotatable with the latter, the member extending beyond the periphery of the one roller to and for contact with the adjacent end face of the other roller, the member forming a rotatable end wall of the reservoir, and coupling means connecting the member with the one roller.

Survey of recent developments in the wet-processing of full-fashioned hosiery. Harold L. DeTurck. *Am. Dyestuff Reptr. 39*, P404-08 (June 12, 1950).

This is a review of the problems of dyeing 15-denier monofilament bright nylon yarn. The dyeing of Type-600 dull, 20-denier monofilament semidull nylon is discussed and laboratory data are presented. Resin finishing emulsions for the production of snag resistance and a full hand are compared.

Symposium of Rhode Island Section—questions and answers. Anon. *Am. Dyestuff Reptr. 39*, P433-36 (June 26, 1950).

At the Nov. 18, 1949, meeting of the Rhode Island Section, AATCC, a symposium was held and experts were on hand who answered questions on the following subjects: dyeing woolens and worsteds, dyeing cotton piece goods, printing, rayon processing and yarn dyeing. The questions included many that bother the practical mill man and that are often not mentioned in formal articles.

Wool dyeing studied. Anon. *Chem. Eng. News 28*, 2285 (July 3, 1950).

Note: A detailed study of the various factors that may affect the sorption of acid dyes by wool has been undertaken by the fiber chemistry section of the Pure Chemistry Branch, Natl. Research Council, Ottawa. The amount of acid sorbed by wool from solutions of sulfuric acid of 4 different strengths, containing sodium sulfate in concentrations varying up to 0.16 molar, has been determined. It has been found that the presence of the salt has little effect on the quantity of acid sorbed within these limits. Similar experiments yielded data on the sorption of an acid dye, orange II, and the results of this study have made it possible to explain previously established empirical relationships between the amount of dye sorbed and the concentration of dye, acid and salt in the dye bath. Factors to be considered are: combination of hydrogen ions with wool, anion affinity, absorption, and Donnan equilibrium effects, the latter necessitating an investigation into the swelling of wool under various conditions.

Printing

Current developments in textile processing. Raymond W. Jacoby. *Am. Dyestuff Reptr. 39,* P454-57 (July 10, 1950).

New process, involving both new machines and new chemicals are reviewed; new developments are recommended as a means of improving quality, lowering production costs and stimulating sales. Also noted are recent developments in vat dyeing and the possibility of combining the rapidity of paper printing methods with new textile printing processes is suggested.

Discharge printing. Bleachers' Association, Ltd. C. S. Parker, F. Farrington & A. E. Stubbs. Brit. P. 589 193, Mar. 17, 1945.

Textile materials of animal fibers are treated, before discharge printing with reducing agents which liberate sulfur dioxide, with formaldehyde or a polymer thereof or a substance yielding formaldehyde, preferably under acid conditions. The formaldehyde or the like, such as methylal, hexamine or methylol urea, may be added to the dyebath or it may be applied to the textile material before or after dyeing. In an example, woolen fabric is dyed from a bath containing Neolan Blue GG, sulfuric acid and formaldehyde. and printed with a paste containing sodium formaldehyde-sulphoxylate.

Fiberglas screen prints. J. H. Thomas. *Rayon & Syn. Tex. 31,* 30-1 (July 1950).

Describes a new process for making colorfast drapery fabrics of Fiberglas. The glass fabrics are first Coronized and subsequently printed by the "Hycar-Quilon" process. The after-treatment, which is probably the most important step in the process, comprises curing the fabric at 300°F for about ½ min., followed by a 15-sec. immersion and padding in a Quilon solution and a final drying at 250°. The process gives the printed fabric fastness to washing and a permanent water-repellency. The formula for the printing paste is also given.

Multicolor stencilling machine for webs. Frantisek Jane. Can. P. 461 971, Dec. 27, 1949.

Apparatus for printing on web material, such as fabric, paper and like webs and ribbons comprising a printing desk or table, rollers for strethcing the material to be printed over the printing desk, a frame carrying a plurality of printing stencils, the stencils being arranged at equal distance from the vertical axis of the frame, means for automatically raising and lowering the frame in timed relation with means for rotating the frame around its vertical axis and stopping the stencils in registry with the surface of the material to be printed on in succession.

New Fiberglas print fabrics. Anon. *Am. Wool Cotton Reptr. 64,* 18 (Apr. 6, 1950).

Coronized Fiberglas fabrics are now being printed by the Hycar-Quilon method of screen printing, which parallels the water-dispersion type resin-pigment systems now used on cottons, rayons, nylons, and others. Fabrics printed by this method are reported to be incombustible, wrinkle-resistant, launderable and cleanable with no discernible loss of color and light fast.

Novelty slub effect printing device. J. R. Stewart. *Textile Industries 114,* 137 (June 1950).

The arrangement for securing novelty effects by a few simple modifications on an intaglio printing machine, without using any specially engraved rollers, is described and illustrated. Any type machine using 3 or more colors can be so modified.

Pigmenting textile materials. H. C. Olpin, P. B. Law & S. A. Gibson. Brit. P. 589 782, Apr. 4, 1945.

White or colored pigments are fixed on textile materials by means of a condensation product of an aliphatic aldeyde and an alkyl, aralky, cycloalkyl or aryl substitution product of a biguanide. The water-soluble condensation product may be applied to the material in conjunction with the pigment by printing, stencilling or "all over" printing with an engraved roll, and thickeners such as gum tragacanth may be added. Fixation of the pigments is obtained by heating, for example, to 80° to 100°C to insolubilize the condensation products. In an example, a lustrous cellulose acetate satin fabric is printed with a paste containing titanium dioxide, gum tragacanth and a solution containing tartaric acid and a condensation product obtained from formaldehyde and the substituted biguanide obtained by melting ethylene diamine hydrochloride with dicyandiamide, and is then passed through a stenter at 90°C for 3 min.

Print plants equipped to handle tomorrow's fabrics. Elliot Broadbent. *Am. Wool Cotton Reptr. 64,* 21, 23 (Mar. 16, 1950).

A brief discussion of conditions in printing plants for handling fabrics of the future is given. It is reported that new equipment will not be required for these fabrics but rather for higher production and greater economy.

Printing textiles, etc. C. Bener. Brit. P. 589 020, Sept. 6, 1940.

Textiles, foils, leather, etc. are printed with a preparation containing a dyestuff and a water-insoluble hydrophobic carrier, and the print is treated with means effecting a chemical or physical modification of the dyestuff carrier in such manner as to permit penetration of the developing and fixing agents to the dyestuff and to the printed material. The means for modifying the dyestuff carrier are preferably those which are effective only after heat treatment, and may comprise saponification, hydrolysis, oxidation reduction, emulsification, dissolution or swelling.

Some new developments in the fixation of pigments in textile materials. A Special Correspondent. *Textile Recorder 68,* 75-6 (June 1950).

Experience in the production of water-repellent finishes on cotton and cellulose rayon materials by application of a cation-active auxiliary consisting of hydrophile and hydrophobe components, following a baking or curing treatment has suggested a new method for fixing colored pigments in textile materials which might influence printing procedures. It has been found that the hydrophobe portion of the auxiliary which is left in the material following baking and rinsing is able to bind pigments so that the shade produced is reasonably fast to washing and rubbing. The discussion includes early pigment binders, defects encountered with resin binders, a new type of pigment binder, simple printing methods, and typical printing procedures.

Textile print design considerations. A Textile *Printer. Textile Mfr. 76,* 292-94 (June 1950).

Technical factors in the printing of fabrics of importance to the designer are reviewed.

SPECIAL FINISHING F

Textile printing. Geo. W. Seymour, Geo. C. Ward & Robt. L. Hunter (to Camille Dreyfus). Can. P. 461 956, Dec. 20, 1949).

Process for the production illuminated discharge effects upon an organic derivative of cellulose textile material dyed in a dischargeable azo ground color, which comprises locally applying to the organic derivative of cellulose textile material in a predetermined pattern a discharge printing paste comprising a discharge agent of acid reaction, an illuminating color comprising the sulfuric acid ester of a leuco vat dye-stuff and an oxidizing agent for developing the leuco vat dyestuff

which is activated upon acidification, discharging the ground color and developing the vat color to the final shade in an acid medium.

Anti-crease process for cotton. R. F. Nickerson. *Am. Wool Cotton Reptr. 64,* 55, 57 (Apr. 6, 1950).

Results of investigations of anti-crease treatments for cotton show that cross-linking of cellulose through resin bridges apparently is necessary to give anti-crease effects in cottons. Reduction of fiber stretch is obtained with an increase in short range elasticity, and different degrees of cure can produce different amounts of cross-linking with the same amount of fixed resin.

Bonding of textile yarns to rubber. Donald Entwistle (to Courtaulds Ltd.). USP 2 511 629, June 13, 1950.

A process for the production of a composite article comprising vulcanized rubber bonded to yarns of regenerated cellulose which includes the steps of impregnating the yarn with a compound chosen from the group consisting of the hydroxides, carbonates and acetates of a metal chosen from the group consisting of zinc, cadmium, mercury and nickel, placing the impregnated yarns in contact with unvulcanized rubber and then vulcanizing the rubber so that the yarns are bonded to the vulcanized rubber.

Cellulosic materials. N. V. Onderzoekingsinstituut. Australian P. 136 956, Aug. 5, 1946.

A process for the treatment of hydrated cellulosic substances (such as fibers, threads or films of regenerated cellulose) so as to reduce their absorptive capacity (particularly for water), is characterized in that the hydrated cellulose is first given a moisture content corresponding to the "transition point", such moisture content lying between 17% and 25% of the weight of the dry cellulose, and is heated thereafter in a closed autoclave (for example at 115°C for a half to one hour).

Chemical reactivity of wool in relation to anti-shrink processes. P. Alexander. *Am. Dyestuff Reptr. 39,* P420-30 (June 26, 1950).

The structure of wool and the theory of felting are discussed briefly. It is shown that 1) oxidation of the disulfide bond is insufficient to produce unshrinkability except after severe attack, and 2) the disulfide groups in wool can be divided into 2 fractions which vary greatly in their reactivity towards oxidizing agents. The chemical basis of the non-shrink process employing a mixture of hypochlorite and permanganate is

discussed in relation to 1) and 2). The rate-determining step of oxidation from aqueous solution can be either diffusion through a film of liquid or diffusion through the fiber. Conditions where fiber diffusion is operative lead to the most even processing under bulk conditions.

Compressive shrinking. Paul V. Seydel. *Textile Industries 114,* 111-18 (May 1950).

Mechanically forced shrinkage to the point where further dimensional change does not occur on washing is called "compressive shrinking" and is the most widely used method for shrinkproofing cotton. The Sanforized and Rigmel processes, which use this method, are described in detail. Other subjects included in this discussion on compressive shrinking are: the theory of shrinking, shrinkage testing, auxiliaries and blankets for compressive shrinking, etc.

Developments in the resin finishing of textiles. Anon. *Textile Recorder 68,* 77-8 (June 1950).

Abridged from a paper "Resins can improve good fabrics" by Ralph M. Fischer. See TTD: *7,* 575.

Fabrics of the future. F. F. Jacobs. *Am. Wool Cotton Reptr. 64,* 16 (Mar. 23, 1950).

A brief discussion is given of the various finishes for fabrics, such as shrinkproofing, lustrous surface finishing, etc.

Finishing and coating of fibrous materials. Louis A. Lantz & Arthur Schofield (to the Calico Printers' Assn. Ltd.) Can. P .462 210, Jan. 3, 1950.

The process of impegnating, coating and stiffeninfi fibrous materials, which comprises applying to a plurality of fabric webs an aqueous solution containing a substance selected from the group consisting of polyvinyl alcohol and water-soluble partial polyvinyl alcohols, an acid catalyst, and an aldehyde in a quantity amounting to from about 2.5 to 40% by weight expressed in equivalents of formaldehyde and based on the weight of polyvinyl alcohol, combining the webs by means of the interlayers formed from this solution, and then heating to form a polyvinyl acetal in situ on the fiber which is insoluble both in water and in organic solvents.

Flame-resistance to cellulosic materials. Anon. *Am. Dyestuff Reptr. 39,* 447 (June 26, 1950).

A new product which is said to give lasting flame-resistance to all types of cellulosic materials, does not affect appearance, tensile strength, and "feel". Fabrics treated with the new product will withstand repeated laundering, dry cleaning and weathering, and exposure to the acid sours and alkalies used in commercial and industrial launderies does not affect the lasting flame-resistant qualities in a fabric. The substance is a titanium organic compound, though other materials are added to lessen afterglow and improve stability, and will be marketed as a solution. Lightweight curtain materials, drapery and upholstery materials, broadcloth, flannel, duck, yarns, and other cellulosic materials may be treated. The treatment increases the weight of the fabric about 15%. It is too complicated for use in home or laundering establishments.

Fungicidal composition comprising a 4, 5-pyrazoledione-4-oxime. Byron A. Hunter & Norman K. Sundholm (to U. S. Rubber Co.). USP 2 510 696, June 6, 1950.

Fabrics and other textile materials may be made mildewproof by the application of 4, 5-pyrazoledione-4--oximes.

Insect proofing woolen fabrics with 2, 3-diaryl indoles. Wm. D. Stewart (to The B. F. Goodrich Co.). USP 2 510 432, June 6, 1950.

A woolen fabric containing 0.5% to 1.0% by weight of 2, 3-diphenyl indole deposited thereon.

Method and apparatus for removing edge roll from cloth subject to the same. Jos. W. Houth, Paul L. Miller & Fred T. Miller (to United Merchants & Mfrs. Inc.).

A method for producing knitted cloth free of edge roll which comprises spreading the cloth widthwise in a first step to remove a portion of the edge roll, wetting the cloth to render it less resilient, spreading the cloth widthwise in a second step to further remove the edge roll, advancing the cloth while coincidently heating and supporting the same, brushing the selvedges of the advancing cloth in a direction to completely uncurl the edge roll and to flatten the cloth, compressing the flattened advancing cloth while continuing to apply heat thereto to set the cloth at least temporarily in a form free of edge curl, removing the cloth from its compressed position, the cloth being subject to widthwise movement as it advances, applying setting material to the selvedges of the advancing cloth, and changing the point of application of the setting material to the selvedges in accordance with the widthwise movement of the cloth.

Method and apparatus for uniformly drying and curing a resin impregnated endless textile strip. Chas. B. Albright (to The Orr Felt &

Blanket Co.). USP 2 512 128, June 20, 1950.

A method of drying and uniformly curing an endless textile strip substantially uniformly impregnated with a solution containing a heat curable resin, which method includes, continuously delivering successive small portions of one run of the impregnated endless textile strip into a heating chamber heated to a temperature sufficient to cure the resin, and continuously withdrawing equal small portions of the other run of the strip from the chamber after heating and before any substantial curing of the resin is effected in any portion of the strip in any single passage through the heating chamber, the total length of the strip within the heating chamber at any one time being only a small portion of the total length of the strip, and repassing the textile strip into and through the heating chamber a plurality of times in accordance with the aforesaid delivery procedure to substantially continuously heat treat all portions of the endless textile strip uniformly throughout the length thereof, whereby the textile strip is dried and the resin impregnant is fully and uniformly cured throughout the length of the strip.

Method of waterproofing cellulose textiles. Christian Bener. USP 512 195, June 20, 1950.

A method for treating cellulose textiles whereby they are rendered shrinkproof, water-repellent, and creaseproof which comprises applying to the textiles in an aqueous medium and in the presence of a catalyst dimethylol urea, an aldehyde, and octadecyloxymethyl pyridinium chloride, respectively, in the approximate ratios by weight of 3:10-20:1-2 wherein the dimethylol urea is present in a quantity which if used alone would not form a creaseproofing resin coating, and thereafter curing the treated textiles at a temperature which causes a reaction with the textiles and imparts shrinkproof water-repellent and creaseproof properties thereto.

Process for preparing water-repellent compositions. Josef Pikl (to E. I. duPont de Nemours & Co.). USP 2 505 649, Apr. 25, 1950.

A process for producing reaction products of methylol melamine and methylol stearamide which either alone or when reacted with pyridine hydrochloride exhibit excellent intitial water-repellancy, good resistance to impact penetration and good fastness to washing when applied to fabrics by the usual wet baking procedure.

Process for rendering cellulosic textile materials transparent and products therefrom. Ernst Weiss (to Heberlein Patent Corp.). USP 2 510 919, June 6, 1950.

A process for transparentizing textiles which comprises, impregnating an open-meshed fabric with an unmixed water-insoluble urea formaldehyde ether resin, the fabric being woven from thread selected from the group consisting of continuous filamentary rayon, spun rayon, and cotton, each of the rayons being of regenerated cellulose, the fabric having 45 to 130 threads per in. in warp and weft, the threads being No. 30 to No. 200 English number for cotton and spun rayon fabrics and 45 to 150 denier for continuous filamentary rayon fabrics, the ether resin being employed as a fluid composition containing 10 to 80% of the ether resin, the ether radical of the urea formaldehyde ether resin containing no more than 7 C atoms, and heating to render the impregnated material transparent, the material in completed transparentized condition having about 15 to 45% by weight of the resin based on the weight of the original fabric.

Reduction of wool shrinkage. G. Sulzer. *Ciba Rev.* 2833-34 (Dec. 1949).

Description of use of Lyofix A, a melamine/formaldehyde resin, to control shrinkage of wool: details of treatment are given.

HA

Relative efficiency of "saturant" bitumen as a textile rotproofing agent. W. G. Atkins, S. R. Sen Gupta & W. G. Macmillan. *J. Soc. Chem. Industry 69,* 61-4 (Feb. 1950).

A series of laboratory tests was carried out to estimate the relative efficiency of bitumen and other textile rotproofing agents. The test apparatus employed kept the fibers under tension while exposing them to a solution inoculated with rot-promoting agents. Pre-treatment with cuprammonium followed by bitumen saturation, or a one-step treatment with a mixture of bitumen and cresylic acid, provided better rot protection than bitumen alone.

Resin for stabilizing textiles and process of making the same. Philip S. Hewett & Ralph E. Carter (to Reichhold Chemicals, Inc.). USP 2 504 835, Apr. 18, 1950.

A process for preparing a clear, stable, water white and water soluble or dispersible resinous condensation product capable of dimensionally stabilizing cellulosic textile materials, which process comprises initially substantially completely reacting a saturated ketone selected from a group consisting of aliphatic and hydro-aromatic ketones with formaldehyde in aqueous solution in the proportion of 2-5 mols of formaldehyde to 1

mol of ketone in the presence of a non-volatile alkaline catalyst at a temperature of from 40°C to 65°C for a period of 2 to 5 hours and maintaining a pH of 8-10 throughout the initial reaction stage, then immediately and without neutralization dehydrating the reaction product under vacuum to from about 60 to 75% solids to form a condensed resinous product, the ketone and formaldehyde constituting the sole reacting ingredients.

Rubber impregnated fabrics. Willem L. Johannes de Nie & Gottfried E. Rumscheidt (to Shell Development Co.). USP 2 511 498, June 13, 1950.

Crease-resistance and water-repellency are imparted to fabrics by impregnating with a water-soluble reaction product of natural rubber with sulfur dioxide.

Shrinkage control of viscose rayon fabrics. J. A. Woodruff. *Am. Wool Cotton Reptr. 64,* 11-12 (June 8, 1950).

Points to be considered in shrinkage control are: shrinkage control possible to obtain, crease resistance obtained, cost of treatment, permanence of hand, possible variations of hand, odor, chlorine retention, effect on dye shade or other properties, and fabric weighting. The effects of each of these points in relation to the fabric and consumer acceptance are discussed.

Some aspects of chlorine retention by resin-treated fabrics. A. C. Nuessle & J. J. Bernard. *Am. Dyestuff Reptr. 39,* P396-403 (June 12, 1950).

Fabrics containing nitrogenous resins pick up chlorine when subjected to hypochlorite bleaching baths. A study was made of the effects of varied chlorination conditions on the amount of chlorine retained and on the resultant discoloration and/or tensile loss during ironing. It was found that 1) small amounts of retained chlorine are harmless; 2) chlorine retention may be caused to reach a dangerous level by too high a bleach concentration or too great a bath ratio; 3) the first injurious effect on melamines is yellowing during chlorination, and ureas are first to show tensile-strength loss on ironing; 4) one type of nitrogenous resin shows appreciable resistance to both yellowing and tensile loss. Factors having a lesser influence on pickup or damage included resin concentration, time and temperature of chlorination, and time and temperature of rinsing. A brief comparison was made of methods of chlorine analysis.

Swedish company produces textile-impregnating substance. Anon. *Chem. Eng. News 28,* 2284 (July 3, 1950).

Note: A textile-impregnating preparation known as Dihydrasol is being made at a Swedish company plant near Stockholm. It is added to the water in which textile or garments are rinsed. It is fixed to the textile electrostatically, becoming part of the fiber, rendering the textiles waterproof and mothproof, it is claimed. The preparation, made entirely of domestic raw materials, is expected to be of considerable importance to the textile industry.

Textile treating products and process of making. John B. Rust (½ to Montclair Research Corp. & ½ to Ellis-Foster Co.). USP 2 510 522, June 6, 1950.

A water-dispersible product for imparting water repellency to textiles comprising a quaternary ammonium compound formed by heating: (A) a tertiary amine, (B) an inorganic halogen compound, such as hydrogen chloride, and (C) a preformed condensation product of a fatty acid amide and an alkoxymethyl-urea or -melamine derivative.

Treating cellulose fibers with alkali metal hydroxide and copper-alkyolamine complex. Thos. C. Whitner (to Chemical Laboratories, Inc.). USP 2 512 558, June 20, 1950.

A process for treating cellulose fibers with an aqueous solution of an alkylolamine-copper complex and an alkali metal hydroxide whereby the depth or shade color (after dyeing) may be altered or modified. The degree of mercerization of cellulosic fibers, due to action of aqueous alkaline solution, may be decreased or increased by the process.

Treatment of textiles and composition therefor. Henry L. Van Mater (to The Titanium Alloy Mfg. Co.). Can. P. 461 778, Dec. 13, 1949.

The method of rendering textile goods water repellent which comprises impregnating the goods with a solution of a soluble double carbonate of zirconium and a soluble soap in amounts to react to form a zirconyl mono fatty acid compound at a temperature below which reaction occurs and thereafter elevating the temperature of the so impregnated goods above 60°C so that reaction occurs with precipitation of zirconyl mono fatty acid compounds.

Versatility of silicones. F. L. Dennett. *Am. Wool Cotton Reptr. 64,* 15-16 (Apr. 13, 1950).

Silicones have been developed in a wide variety of forms, including fluids, mold lubricants, greases, dielectric sealing compounds, antifoam agents, electrical insulating varnishes and resins, resins for protective coatings and rubber-like materials. The use of silicones in spinning, weaving, finishing textiles is discussed.

Warm in winter—cool in summer. A Special Correspondent. *Textile Mercury & Argus 122,* 885, 905 (June 2, 1950).

The Deering-Milliken process for improving the warmth of fabrics, known as "Milium", is described briefly. The treatment consists of padding one side of the fabric with a metallic stearate which virtually impregnates every individual fiber even though the material is treated as a piece. During the development of the process, 2 new testing devices were invented to help experiments. A "Calorific Visitherm" provides a quick reading of heat loss through a fabric. It consists of an infrared heat lamp and a holder for the samples about 10 in. away. Behind the sample is a meter which provides heat readings in gram calories per square centimeter. The second device is a porosity tester—the porophorometer—which provides a stream of air into which a sample of fabric is inserted. Delicate vanes are revolved by the air passing through the sample. Revolution of the vane may be visually observed, or, for greater accuracy, a stroboscope may be used to count the revolutions.

What's cooking in new resin treatments. Ralph M. Fischer. *Textile World 100,* 129, 190, 192, 194 (June 1950).

A new method of applying melamine resins to wool ages resin and acid to form a colloidal-resin solution. This is applied to wool treated with a peroxy compound. The treated wool can have clear, bright dye shades, clear whites, excellent tensile strength and resistance to sagging or stretching. Thermoplastic resins, dried on the fabric, and calendered hot produce a durable, soft, smooth finish. Wrinkle resistance produced by resins on cotton is discussed. The use of a new type of melamine resin is described. Angle tests have been develooped for measuring crease resistance, and are better than the T. B. L. method. (Based on paper delivered before American Association of Textile Technologists).

TESTING AND MEASUREMENT G

Bending method for measurement of the tensile strength and Young's modulus of glass fibers.

David Sinclair. *J. Applied Physics 21,* 380-86 (May 1950).

The tensile strength and Young's modulus of drawn glass fibers were measured by a bending method which consisted of twisting a loop in a fiber and pulling the ends until the loop broke. Tensile strength observed was 2 to 3 times higher than observed by the conventional straight fiber method. This may be accounted for by the presence of flaws, since there is little probability that the weakest flaw will occur in the loop; the straight fiber will always break at the weakest flaw. The modified Chainomatic balance used is described, and the equation for the loop fiber is derived.

Design for quick production of spinning tests. Frank Dunkerley. *J. Textile Inst. 41,* P148-60 (Apr. 1950).

This is an account of techniques developed at the spinning test mill at Giza for the quick production of spinning tests. The account, which was written with the thought of perhaps preventing costly errors by new comers in the field, describes the building, gives specifications of the machines used, and describes the maintenance of standard machine conditions. Also discussed are: passage of a sample through the unit, control of sections within the unit, staff required, elimination of errors, the control sample, and change in strength level between groups.

Error survey on routine moisture tests of cotton bales. W. Lawrence Balls. *J. Textile Inst. 41,* T127-34 (Apr. 1950).

Describes a survey of test certificates, issued by the Alexandria Testing House, made in order to determine: 1) the cause of occasional anomalous results from press head sampling, and 2) the possibility of using the air test as a supplement to the oven test, balancing its lower accuracy against its rapidity.

Light fastness of colored textiles. Schweizerischer Verband für die Materialprüfungen der Technik, Kommission 25, Richtlinienblatt A 2501. *Textile-Rundschau 3,* 313-14 (Sept. 1948); *in German.*

Light fastness of colored textiles is tested by exposure against 8 dyed standards on wool: 1) 0.8% Brilliant Wool Blue FFR extra (IG); 2) 1% Brilliant Wool Blue FFB extra (IG); 3) 1.2% Brilliant Cyanine 6 B (Ciba); 4) 1.2% Supramine Blue EG (IG) or 1.1% Polar Blue G. conc. (Gy); 5) 1% Alizarine Light Blue R (S); 6) 3% Alizarine Light Blue 4GL (S); 7) 3% Indigosol 06B

(DH); and 8) 3% Indigosol AGG = Anthrasol AGG (IG). Daylight exposures are preferred but the use of the Fadeometer is recommended as an alternative.

Measurement of fineness of cotton by air-flow methods. Hugh M. Brown & John S. Graham. *Textile Research J. 20,* 418-25 (June 1950).

Describes investigations made to determine, theoretically and practically, how well fineness and/or maturity can be measured by air flow methods. Seven varieties of cotton were used to give a wide range of fiber development. Both theoretically and practically air flow methods give readings that correlate much better with specific surface than with fineness or maturity. If calibrated in units of specific surface, the air-flow instruments will measure all cottons with one scale. For single varieties of cotton, both fineness and maturity may be found from air-flow readings. It is believed the air-flow method is sound and that, within their limitations, the instruments are very worth-while, time-saving devices. Since they seem to measure specific surface directly, it is unfortunate that this factor is not as good as fineness for predicting spinning characteristics and yarn quality.

Moisture determination in textiles by electrical meters: Part IV. John C. Whitwell, Carol F. Bowen & Richard K. Toner. *Textile Research J. 20,* 400-09 (June 1950).

Describes tests of the Fielden Drimeter and the Hart Moisture Meter. The majority of the laboratory tests indicated that the standard deviation of the Fielden Drimeter is about = 0.14% moisture, which compares favorably with the figure of = 0.12% for the oven. The standard deviation for the Hart Moisture meter was found to be = 0.07% moisture compared to = 0.12% for the oven. The meter is approximately twice as precise as the oven.

Rapid analytical method for determination of changes in cotton and cotton fabrics. Oskar Heim. *Am. Dyestuff Reptr. 39,* P417-19 (June 26, 1950).

Describes a simple analytical procedure which uses a special aqueous solution that can dissolve degraded cellulose to obtain a quantitative and qualitative measure of the location and extent of damage that cotton has incurred in processing. As this damage is often latent it does not appear readily through a loss of tensile strength. Such latent damage can also be determined by cuprammonium fluidity measurements but these are too

difficult and involved for most small laboratories.

Sampling in relation to specifications concerning degradation of textile materials. H. P. Stout. *J. Textile Inst. 41,* T145-50 (Apr. 1950).

A statistical discussion.

Some comparisons of fiber "fineness" measurements. Edw. W. S. Calkins. *Textile Research J. 20,* 426-32 (June 1950).

Interlaboratory check tests showed excellent correlation between a "home-made" air permeability instrument, the "Arealometer" and another air-permeability instrument in another laboratory. From these, and results reported by other investigators, it is concluded that any instrument of this type, if properly calibrated, can do a good job of measuring surface area (or specific surface.) Fibers of the same surface area may vary widely in weight per inch; no conversion from surface area to weight per inch can be accurate unless one other variable is held constant. This other variable may be either wall thickness, fiber diameter, or their ratio, usually called "maturity."

Some physical-chemical aspects of cotton detergency; cationic adsorption and exchange as shown by radiocalcium tracer studies. Jos. M. Lambert. *Ind. Eng. Chemistry 42,* 1394-98 (July 1950).

Among the complex physical-chemical interactions of practical cotton detergency, the acidic character and microscopic accessibility of the fibers are of importance. Effective detergents are those of anionic or built non-ionic type, which are adsorbed on cellulose. Data were obtained on detergent adsorption by an indirect method of laundering in hard water containing calcium 45 and measuring radiocalcium pickup. Tests showed the expected variation in calcium adsorbed with number of washings and a higher adsorption with old than with new cloth. A laundering in inactive hard water removed radiocalcium, demonstrating the ion exchange character of the adsorption. The method described has some promise in investigation of detergency and dyeing of cotton.

Some physical-chemical aspects of cotton detergency; limitations of present laboratory testing methods. Jos. M. Lambert & Herbert L. Sanders. *Ind. Eng. Chemistry 42,* 1388-94 (July 1950).

Present detergency tests fail, for several reasons, to simulate actual fabric use conditions. In practice, cotton is soiled by complex mixtures and laundered when lightly soiled, while in testing

the soils are heavy deposits of carbon black, incompletely removed in a single, unrepeated laundering. Nonlinear relations between reflectance and amount of soil show that even trace quantities of ingrained soil can appreciably reduce the whiteness of textiles. To evaluate these differences, multicycle wash tests were carried out on roll towels soiled in actual use and then washed in the laboratory with a home washing machine, using several cotton detergents. Results agreed with field tests, but failed badly to correlate with single-cycle tests on carbon black soiled swatches included in the same washes. An example from these tests showed that, though the precision of single-cycle laboratory data may be good, its accuracy is questionable.

Testing the moth-resistance of wool textiles. Schweizerischer Verband für die Materialprüfungen der Technik, Kommission 25, Richtlinienblatt A 3001. *Textil-Rundschau 4*, 65-6 (Feb. 1949); *in German.*

Details are given of the Swiss (S.V.M.T.) standard method for testing the moth-resistance of wool textiles. The test consists in measuring the loss in weight of samples which have been charged with larvae and stored, together with control samples, under specific conditions. A material is considered mothproof if the loss in weight is not greater than 12% of the loss in weight of the control material.

Wash fastness of colored textiles. Schweizerischer Verband für die Materialprüfungen der Technik, Kommission 25, Richtlinienblatt A 2521. *Textile - Rundschau 3*, 356-57 (Oct. 1958); *in German.*

Three standard methods for testing the wash fastness of colored textiles are proposed: Grade A, for cotton, linen, viscose, wool, silk, acetate rayon, and nylon—5 g of soap per liter, for 30 min. at 40°C; Grade B, for cotton, linen, viscose and wool (for washfast and fast-to-milling shades)—5 g of soap and 2 g of soda per liter for 30 min. at 60°C; Grade C, for boil-fast shades on cotton and linen—5 g of soap and 2 g of soda per liter for 30 min. at 90°C. Wool dyeings are first neutralized by 2 treatments in 10 g of sodium acetate per liter for 15 min. at 20°C. The washing tests are carried out in a 50:1 liquor ratio by hand, in the Launderometer or in the Geigy apparatus.

Clothing and fabrics G 1

Note on the disintegration of wool in abrasion tests. H. F. Schiefer & J. F. Krasny. *Textile Mfr. 76*, 295-98 (June 1950).

See TTD: 7, 153.

The Serviceability of Fabrics; a Literature Survey. Francis D. Horigan and Cary R. Sage. (Bibliographic Series No. 13). Philadelphia, Technical Library, QM Research and Development Laboratories, 1950. 52 p.

"Serviceability" as dealt with in this bibliography is used in a restricted sense, i. e. 1) field tests for "serviceability" and wear, and 2) laboratory tests on wear and abrasion. The bibliography covers the years 1936-1949.

Instruments and instrumentation G 2

Continuous nylon size viscosimeter. Anon. *Am. Dyestuff Reptr. 39*, 442 (June 26, 1950).

Note: An in-the-line indicating viscosity meter has been developed for nylon size service. The instrument is installed at eye-level directly in the size line and provides an instantaneous and continuous check on size viscosity. The "Nylon Size Viscorator" is available in indicating and remote recording-controlling instruments.

Instrument locates statically charged areas. Anon. *Textile World 100*, 148, 149 (June 1950).

Features of an electrostatic volt meter, developed at the Institute of Textile Technology and manufactured by Specialties, Inc., Syosset, L. I., N. Y., are described. The volt meter, which weighs only 3 lb., 10oz., provides an indication of the amount of electrical charge on moving or stationary equipment or materials. Preventative steps can be taken when relative charges for various areas are determined by means of the electrostatic volt meter. The instrument does not require technically trained personnel to make the qualitative determinations. Power is self-contained.

Measurement of lap irregularity. Anon. *Textile Weekly 45*, 1648 (June 30, 1950).

Describes briefly the "Beta" thickness gage for measuring the thickness, weight and density of a lap. The device consists of 3 units: 1) a radio isotope which emits a constant stream of beta rays; 2) an ionization chamber; and 3) an amplifier unit containing the measuring instrument and supplying the necessary power to operate a recorder. As the thickness of the material being tested varies some of the beta rays will be stopped and some will pass through, thus causing variations in the ionization taking place in the ionization chamber. These variations in ioniza-

tion are then amplified to operate an indicator or recorder. The radioactive material, which is said to be harmless to operatives, machines, and textile materials, would require renewing at about 5-year intervals.

Nylon preboarding equipment. Proctor and Schwartz Inc. *Hos. Und. Rev. 33,* 153, 165 (Mar. 1950).

Note on "Check Test" manual preboarding machine, which has a capacity for 6 stockings at a time and is designed to enable the manufacturer to estimate on stockings in the greige how they will appear after preboarding. The machine may also be used for dyers for checking shades.
HA

Rotating specimen mount for use with X-ray spectrometer in measuring crystallite orientation of cellulosic and other textile fibers. Leon Segal, Jos. J. Creely & Carl M. Conrad. *Rev. Sci. Instruments 21,* 431-35 (May 1950).

The use of X-ray methods for the quantitative evaluation of crystallite orientation in textile fibers is discussed. It was found that photographic recording and photometering of the resulting films can be replaced by automatic recording on a strip chart with the aid of an X-ray spectrometer with Geiger-Mueller counter. The design and details are given for a specimen holder for properly positioning and rotating a bundle of fibers in the X-ray beam so that the 002 or other selected diffraction arc passes before the window of the counter. A tentative procedure is given for evaluating, with the aid of this apparatus, the crystallite orientation of a bundle of cellulose fibers. Typical recordings of the intensity curves of the 002 arcs from ramie, cotton, and high tenacity rayon are given.

Tensile strength of textile raw materials and the fiber dynamometer. Anon. *De Tex 9,* 95-6 Feb. 1950) ; *in Dutch.*
HA

Testing textiles on the Elmendorf tear tester. E. V. Painter, C. C. Chu & H. M. Morgan. *Textile Research J. 20,* 410-17 (June 1950).

Describes work undertaken to determine the magnitude of and variations in the speeds of tear obtained with the use of the Elmendorf tear tester. The tester, which was originally designed for testing paper, can be used for testing textiles providing expression of results is altered slightly to take into account stretching of the "tails" of the sample torn. Tearing speeds of the tester were derived from the mechanics of pendulum motion

and checked experimentally with a high-speed recorder. The maximum capacity was doubled, in the same manner as that given by Carson and Snyder, to give quadruple the original capacity.

Thread inspecting device. G. Desgroseilliers. Australian P. 137 022, June 24, 1947.

In a redraw machine the thread inspecting device includes a plate, thread guides, an arm pivotally mounted on the plate, a guide carried by one end of the arm and adapted to be traversed by a thread trained on the first named guides and a counterbalance means on the other end of the arm.

Yarn strength testing. Anon. *Textile Recorder 68,* 88 (June 1950).

A brief note describes features of the Uster automatic yarn strength tester which is capable of making 120 tests per hour and which provides a continuous record of results. The machine can be set to carry out any required number of tests, up to 1,000, and automatically stops when that number is reached. Six measuring ranges are provided, corresponding to 200, 400, 600, 1,000, 1,500, and 2,000 grams.

TEXTILE MILLS H

Accident prevention in materials handling. S. R. Brookshire. *Can. Textile J. 67,* 70-2 (June 23, 1950).

To achieve smoother flow of materials, increased output, lower manufacturing costs, and a better safety record, textile mills are advised to integrate materials handling equipment into a general plan.

Adressbuch der Deutschen Textil-und Bekleidungsbetriebe (Directory of the German Textile and Clothing Works). Published by the Kaupertverlag Deutsche Adressbuch-Gesellschaft m.b.h., 210 Friedrichstrasse, Berlin SW 68 (U. S.-Sector) 788 p. Price: DM 21.50.

This directory, which the publishers claim to be the first complete directory of German textile and clothing works, and which contains 50,000 addresses, is divided into 3 sections. The first section is an alphabetical index of firms arranged according to zones—American, British, French, Berlin, Soviet. Section 2 is divided according to the various branches of textiles and clothing, and is classified according to groups and places. The third section is an alphabetical classification of 3,500 names of goods, trade-marks, etc.

Air compressors need proper maintenance. Tyler

G. Hicks. *Textile World 100*, 104-05, 212, 214 (June 1950).

The following aspects of air compressor maintenance are discussed: 1) lubrication of the air cylinder, 2) cylinder deposits, 3) carbon deposits around discharge valves, 4) intake air and intake line, and 5) safety precautions. Illustrated with diagrams, and table of oil feed rates.

Air conditioning and refrigeration aid efficiency at Gotham plant. Anon. *Textile Industries 114*, 139, 141 (June 1950).

A description is given of the air conditioning and refrigeration system (at Gotham Hosiery Co.). The system helps minimize machine adjustments and serves to control factors affecting nylon yarn, size, and length of stockings.

Air conditioning for profit. H. S. Colbath. *Am. Wool Cotton Reptr. 64*, 11-12, 18 (May 25, 1950).

The factors that had to be considered in air conditioning a cotton mill (Bibb Manufacturing Co.) are discussed. Details of the capital investment and benefits derived from air conditioning and the operating cost of the system are given.

American Textile Machinery Exhibition. Anon. *Textile Industries 114*, 143-66 (Apr. 1950).

Listings of exhibitors and their products shown at the Atlantic City textile machinery exhibition are presented with notes on the exhibition also given.

American textile machinery exhibition. Anon. *Am. Wool Cotton Reptr. 64*, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155-59 (May 4, 1950).

A tabulated list of the manufacturers and their exhibits shown at the Textile Machinery Exhibition in Atlantic City is given.

Are you assigning work loads fairly? Henry P. Lynch. *Textile World 100*, 92-3 (June 1950).

Many factors influence the number of spinning spindles an operator can tend adequately. An example of the work load of 2 operators with similar assignments except for the pounds per hour of yarn illustrates some of these factors. Illustrated with a diagram showing a graphic method of computing breaks per hour for a given assignment.

Arista Mills' beam handling system. Edw. H. Doerger. *Textile Industries 114*, 106-07 (May 1950).

An automatic beam handling system at Arista Mills Co. automatically transfers full beams from the warper room on one level to the slasher room on a lower level and returns empty beams after the carrier is started. A diagrammatic sketch shows the arrangement of the beam handling equipment.

Assembly line principle utilized in knitted outwear plant. *Textile Industries 114*, 221, 223, 225-26 (Apr. 1950).

Two systems of conveyors at the Puritan Knitting Mills, Inc. is described. The systems make possible continuous production employing assembly line theory.

Atlantic City show. Anon. *Textile Age 14*, 24-38, 41-56, 59-89 (Apr. 1950).

Modernization and recent developments in preparatory, weaving, finishing, dyeing and other general textile mill equipment are discussed with details of the equipment and accessories shown at the Atlantic City Machinery Exhibition given.

Automatic overhead cleaning in weaving successful. Anon. *Textile Industries 114*, 90-1 (May 1950).

Results of installing automatic ceiling cleaners of the single-rail fan type in the weave room at Avondale Mills are shown in a series of illustrations. Hand cleaning is still necessary, but the cleaning interval is greatly extended when the fans are used.

Bibliography on water and sewage analysis. B. H. Weil, Poagie E. Murray, Geo. W. Reid & Robt. S. Ingols. Georgia Institute of Technology, State Engineering Experiment Station. Available from Gerald A. Rosselot, State Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Ga. PB 100 357, 1948. 227 p. *Bibl. of Technical Reports 13*, 307 (June 16, 1950). Price: $4.00.

An indexed guide to the pertinent literature on water and sewage analysis, prepared so that future work might benefit through use of and acquaintance with existing data. References have been sorted according to subject under "tests" for various materials and properties. Every effort has been made to make this bibliography complete to Jan. 1, 1948.

Capacitors cut power bills. Anon. *Textile Industries 114*, 103-05 (May 1950).

A reduced power bill and better electrical service will result from the installation of capacitors for power factor correction in textile mills. A ca-

pacitor is an electrical condenser which supplies wattless current to the plant circuit and is accepted as the best way to improve power factor in the textile industry.

Conveyor speeds wool bale handling. Anon. *Textile Industries, 114,* 127 (June 1950).

The installation of an overhead monorail conveyor system (at Raritan Mills) provides a smooth uninterrupted journey for wool bales which are received, weighed, and stored in a continuous operation.

Dehumidifier aids production. Anon. *Textile Industries 114,* 143, 145, 147 (May 1950).

"Kathabar" dehumidifiers used in a full-fashioned hosiery mill (Chas. H. Bacon Co.) for controlling humidity are described. Advantages resulting from use of the dehumidifiers include: less size strips from nylon, better control of stocking length, more production per machine with better machine performance and fewer machine shutdowns, and better quality hosiery.

Five-story bale lift installation. Anon. *Textile Industries 114,* 171-72 (Apr. 1950).

A unique intermittent bale conveyor for transporting compressed bales of wool from the first floor of the storehouse to the sorting section of the opener room on the fifth floor (at Alexander Smith & Sons Carpet Co.) is described and illustrated.

Forum on industrial waste problems — textile wastes. Jos. A. McCarthy. *Sewage & Ind. Wastes 22,* 801-02 (June 1950).

Reviews problems in textile waste disposal and considers briefly research and progress on these problems.

4,000 textile mills hit by major fires in a year. P. C. Hensler. *Textile Age 14,* 90, 92, 94 (Mar. 1950).

Greater attention to fire prevention and fire protection will reduce the frequency of fire losses in the textile industry. Suggestions for combining these phases of fire safety to reduce the hazard of fire are described.

Gregg dyeing and finishing is South's newest plant. Anon. *Am. Wool Cotton Reptr. 64,* 25 (May 11, 1950).

Features of a new dyeing and finishing plant, that is set up for straightline production, are briefly described.

How to investigate your materials handling. Herbert L. Werner. *Textile World 100,* 96-7

(June 1950).

Every mill is a separate problem; steps in investigation should include: 1) process flow chart, 2) diagrammatic flow analysis on a scale layout, 3) determination of actual cost of each element in handling, and 4) evaluation of specific techniques. A check list that can be used in analyzing a plant is given. (Condensed from paper delivered to S. C. Division, Southern Textile Association).

Humidity systems can be engineered simply. Tyler G. Hicks. *Textile World 100,* 118-19, 230 (June 1950).

The 5 factors affecting the amount of moisture to be added to a processing room are: 1) number of air changes per hour; 2) moisture absorbed by material in the room; 3) minimum outdoor temperature in the locality; 4) room temperature; and 5) relative humidity necessary. Two examples show how to work out pounds per hour of moisture needed. A few general principles on location of humidifiers and piping are explained and illustraated by diagrams. Illustrations include a set of curves to be used in solving problems and tables of desired humidity, temperature, and moisture content of saturated air.

Knitted outwear mill profits from systematic maintenance. Anon. *Textile Industries 114,* 151 (May 1950).

Oil stains at the Kingston Knitwear Co. are being eliminated by knitting run-outs from waste yarns during daily housekeeping, lubrication, and maintenance periods. Chances of dirt accumulation have also been reduced by converting all machines to individual drives and installing a false flat ceiling of Celotex.

Lubrication program in mill makes substantial savings. Anon. *Whitin Rev. 17,* 25-31 (Jan.-Feb. 1950).

The lubrication program of the Paul Whitin Mfg. Co.'s Rockdale Mill, Northbridge, Mass., is described. Before institution of the new system each overseer ordered the lubricants necessary for his room. Lubrication was performed under the supervision of each overseer. The resultant overstocking of lubricants, oil contamination, and unscientitic oiling were eliminated by a new system involving 3 steps: 1) selection of a lubrication superintendent for the whole plant; 2) education of all concerned with the characteristics of various oils and greases, and techniques of oiling procedures; and 3) detailed schedules of lubrication for every room and every machine

in the plant. Under the new set up the lubrication supervisor can keep the program going in less than 20 hrs. a week. The other 20 hrs. of his time are devoted to the improvement of safety procedures.

Magnetic separators require engineering. Henry Hersey. *Textile Industries 114,* 138-42 (Apr. 1950).

The types of permanent magnetic separators including plate magnets, pneumatic line magnets, and magnetic pulleys are described. Actual magnetic installations are described for cotton mill opening rooms, waste plants, woolen mills, and rayon mills. The importance of application engineering in installing magnetic separators is also discussed.

Maintaining boarding equipment. S. H. Boyer. *Textile Industries 114,* 148 (June 1950).

Suggestions for maintaining boarding equipment, including vents and steam piping, retort maintenance, rack speeds, maintaining forms, and ventilation are discussed.

Maintenance important for good belt performance. E. H. Helliwell. *Textile World 100,* 112-13 (June 1950).

Wrong choice of belt, improper installation, and failure to maintain good operating conditions cause most belt failures. Correct width of pulleys, alignment of shafts, and alignment of pulleys are all important factors. Belt tension is also discussed. Dressing should be applied only after a thorough cleaning of the belt. A table gives causes, and remedies of belt troubles; and diagrams show how to check alignment, and direction of splices.

Materials handling essential to competitive production. Herbert L. Werner. *Am. Wool Cotton Reptr. 64,* 47-8, 52 (Apr. 27, 1950).

The cost and efficiency of labor and operations in a textile mill are largely dependent on the modernization of materials handling methods. Suggestions for modernizing these methods are discussed.

Mill expects Pneumafil to return cost within year. John W. MacLead. *Textile World 100,* 111, 125 (June 1950).

Installation of a Pneumafil system on worsted-spinning has resulted in: 1) end breakage reduced 25%; 2) less waste, and better price for waste; 3) improved yarn quality, with resulting lower weaving and burling costs; 4) easier machine maintenance; and 5) increased production

due to increased frame speed.

New machinery offers lower unit cost. Anon. *Am. Wool Cotton Reptr. 64,* 15-16, 35 (May 18, 1950).

Examples of how production costs can be lowered, as demonstrated at the American Textile Machinery Exhibition, are discussed.

Practical quality control system. Frank L. Byrd. *Textile Industries 114,* 95-8 (June 1950).

A useful and inexpensive program designed to help reduce seconds and operating costs and to control and improve quality in weaving and preparatory departments is described and discussed.

Stream pollution control calls for waste analysis. Jos. A. McCarthy. *Textile World 100,* 102, 103 (June 1950).

Three means of reducing pollution loads are: 1) sedimentation and equalization, 2) chemical treatment, and 3) biological treatment. Careful studies must be made to find which is necessary. Joint action by 2 or more plants may help equalize wastes. Chemicals often have to be used in addition to sedimentation. The calcium-chloride carbon-dioxide process using flue gas is described briefly. None of the processes are perfect; costs are often too high; recovery of by-products, including water, not complete. A description of some of the work on stream pollution being done in Massachusetts is given. (Abstract of talk given before New England Section of the AATCC).

Tenacious lubricant. Anon. *Esso Oilways* 12, 14 (June 1950).

Describes the solution to a lubrication problem presented by carpet looms. Grease spots on Jacquard fabrics were eliminated by lubrication of the plunger rods and guides on each side of a Jacquard loom head with specially developed calcium soap greases that adhere well to *clean* metal surfaces. The grease is made in 2 grades: 1) a heavy grade for loom cams, particularly those of heavy carpet looms, and 2) a lighter grade for use on dobby heads, etc.

Textile machine improvements. Anon. *Am. Wool Cotton Reptr. 64,* 19, 22, 171 (May 4, 1950).

A description is given of improvements in drawing, roving, and spinning equipment with future improvements also discussed.

Textile process water problems and control. Eric T. Laurin. *Rayon & Syn. Tex. 31,* 103-5 (May 1950); 81-2 (June 1950); 81-3 (July 1950).

Part 1—The impurities in water of greatest concern to the textile operator are 1) salts of calcium, magnesium, iron and maganese; 2) the gases, oxygen and carbon dioxide; 3) organic and suspended matter. The conditions under which these impurities are found, the importance of quality in water, and methods of softening water are discussed. Part 2 is a discussion of corrosion control. Part 3 is concerned with water problems in the woolen or worsted mill, the cotton or rayon finishing plant, and hosiery mills. The testing for hardness in water is noted briefly and in an appendix are given the Schwarzenbach titration methods for total hardness and calcium.

Treatment of water supplies in the textile industry. Heinrich Stenger. *Kunstseide u Zellwolle 27,* 231-36 (1949); *in German.*

This is a discussion of water treatment methods and includes the following topics: 1) pretreatment, 2) softening, 3) elimination of iron, manganese, and acids, and 4) softening of feed water for steam boilers.

Washing bobbins at Hillcrest. Anon. *Textile Industries 114,* 101-02 (June 1950).

A new and unique bobbin washer used at Hillcrest Throwing Plant is described. The machine permits washing of bobbin equipment quicker and at less cost than is possible with manual methods.

Windowless mill construction. Roy Palmer. *Textile Industries 114,* 87-9 (May 1950).

The trend to windowless textile mills with air conditioning and high level lighting is resulting in lower operating costs, improved quality of product, reduced construction costs, and better working conditions.

CHEMISTRY AND PHYSICS OF TEXTILE MATERIALS I

Action of light on textiles. R. Dicker. *Rayonne 6,* 53-8 (June 1950); *in French.*

The degradation of acetate rayon when exposed to light for 200 hrs. is not as rapid nor as pronounced as in the case of linen, silk or nylon. Dull viscose is more rapidly degraded than bright because some of the light falling on the dull rayon is partially dispersed and acts on the cellulose whereas in the case of the bright the light is reflected. Tables are presented, one of which indicates the decrease of strength and elongation of treated and untreated semi-dull viscose.

Application of N-carboxy anhydrides of amino acids to wool. P. Alexander, J. L. Bailey & D. Carter. *Textile Research J. 20,* 385-99 (June 1950).

This discussion is in 2 parts as follows: Part I—The use of *N*-carboxy anhydrides in the control of felting shrinkage; Part II—The nature of the reaction between *N*-carboxy-glycine anhydride and wool. Detailed investigation of the mechanism of the process revealed that the successful application of *N*-carboxy-glycine anhydride to deaminated and acetylated wool demonstrated unequivocally that the polymer is held on the fiber by physical forces or hydrogen bonding.

Association of xylan with α-cellulose in jute. P. B. Sarkar, A. K. Mazumdar & K. B. Pal. *Nature 165,* 897-98 (June 3, 1950).

In a communication to the editor, experiments are described which showed that the α-cellulose from jute seems to be free from xylose.

Crystallinity of cellulose and its significance for the fiber properties. Kyle Ward, Jr. *Textile Research J. 20,* 363-72 (June 1950).

This discussion is concerned primarily with cotton cellulose and includes consideration of the following: nature of the crystal lattice; percentage of crystalline material; size of the crystallites; and orientation. High strength and low extensibility are associated with a high percentage of crystallinity and with high crystallite orientation parallel to the fiber axis. High birefringence is also associated with high orientation. Moisture regain and heat of wetting decrease as the degree of crystallinity increases, whereas density increases. High chemical reactivity is definitely associated with the amorphous regions, and therefore high reactivity corresponds to a low degree of crystallinity. 53 references.

Improved colloids for textile processing. F. A. Möller. *Brit. Rayon & Silk J. 26,* 60-1 (May 1950).

Reviews the chemistry of starches and briefly describes new potato starches of improved properties brought about by etherification and esterification.

Load induced X-ray line broadening in nylon filaments. John Kauffman & Waller George. *J. Applied Physics 21,* 431-34 (May 1950).

Load induced microscopic structural changes in highly oriented nylon filaments were followed by changes in the X-ray fiber diffraction pattern as a function of the resulting strain. Observations made included 1) changes in the dimensions of the fiber spots, and 2) a decrease in ratio of the

intensity of amorphous to crystalline X-ray scattering. These results for Type 200 duPont nylon indicate a change in the micro deformation mechanism at a strain corresponding to the inflection of the load-strain diagram (14% elongation).

Rate of acid sorption by wool fibers. Joel Lindberg. *Textile Research Inst. 20,* 381-84 (June 1950).

A method for measuring the diffusion rate of mineral acids in wool fibers was developed. The method consists mainly in dispersing short fibers in acid solutions and measuring the decrease in the concentration by means of a conductivity cell. The diffusion constant is obtained by solving the diffusion equation for the conditions specified. The experimental curves are in good agreement with the theoretical ones. In this way the importance of the epicuticle for the diffusion phenomena in wool fibers was proved. The presence of an undamaged epicuticle gave a low diffusion constant. The necessity of removing all foreign matter which may interfere with the diffusion is stressed.

Some frictional properties of wool and nylon fibers. G. King *J. Textile Inst. 41,* T135-44 (Apr. 1950).

The frictional coefficients for clean wool and nylon fibers rubbing on other surfaces was measured using a slip stick technique. The effect of surface roughness on the directional frictional effect of the wool fiber was also examined. The action of swelling agents on the frictional coefficients of wool and nylon suggest a close relationship between the elasticity of the rubbing materials and their coefficient of friction. The relationship between frictional coefficient and normal pressure is discussed.

Structure of natural and synthetic fibers. H. Staudinger. *Textil-Rundschau 4,* 3-17 (Jan. 1949); *in German.*

A review of fiber structure is presented with special reference to the determination of molecular weight and the relation between degree of polymerization and fiber properties. The chemical changes resulting from the oxidation of cellulose fibers are outlined, and the phenomenon of the inclusion of organic substances such as benzene and carbon tetrachloride in fibers is described.

WOOL—ITS CHEMISTRY AND MODIFICATION BY CHEMICAL TREATMENT IN GERMANY. J. G. Evans. (B.I.O.S Final Report No. 1229) London, H. M. Stationery Office [1949?]. 18 p. Price: 2s.Od. net.

Brief summaries are presented of the work of Elöd, Schöberl and I. G. on wool during the war years. A list of Elöd's publications during this period is given. The work of Schöberl and I. G. is discussed briefly under the following headings: Schöberl's work: 1) The action of water on wool; 2) The deposition of metal sulfides on wool, 3) The action of ammonia on wool, 4) Preparation of cystein and lanthionine, 5) Sulfur content and the activation of papain, and 6) Increasing the sulfur content of proteins. I. G. Work on Wool: 1) Acetylation of wool, 2) The treatment of wool with polyfunctional ethylene imine derivatives, 3) The treatment of wool with chloromethylethers, 4) The treatment of wool with epichlorhydrin, and 5) The treatment of wool with aliphatic isocyanates.

Exchange of research data on wool. Anon. *Can. Textile J. 67,* 72 (June 23, 1950).

Under the sponsorship of the Wool Bureau, Inc., the first of a series of conferences was held in New York on May 4 for the purpose of hastening the free exchange of research information between scientific laboratories and the wool textile industry. Reported at the meeting was research on wool scouring which revealed that scouring by suint salts can be made significantly more effective when controlled, small amounts of alcohol are added. The alcohol with suint not only produces higher efficiency in the removal of wool grease, but permits easier recovery of the grease by breaking down the wool grease emulsion.

Mellon Institute research programs summarized. Anon *Am. Dyestuff Reptr. 39,* 444 (June 26, 1950).

Recent developments in textile research at the Mellon Institute of Pittsburgh, Pittsburgh, Pa., are noted briefly. Among the results mentioned are: Wool— 1) A shrinkproofing process for wool, which has been used in the production of baseball-uniform flannel, and which is entering the fields of knit goods and other all-wool fabrics. 2) Development of an effective mildew-resistant treatment for wool. Nylon— 1) The desirability of using oils with antistatic properties on nylon yarns has been demonstrated. 2) The practicability of the throwster employing polymethacrylic acid in the single-end sizing of weaving yarns has also been established. Garment filling mat-

erials—Various textile materials and batt-forming procedures have been studied in investigations of fibrous batting as replacements for down and feather type insulation for artic clothing, etc. The specific management of the fibers to take axial compressive loads offers the greatest opportunity for achieving outstanding compression resistance. A new process for controlling and definitely orienting fibers in the direction of compressive force is most promising. New chemicals—Substituted amines were prepared for study as textile softeners and to prevent the gas fading of acetate dyestuffs. Silicones—Silicone treatments for waterproofing textiles have been devised.

New development laboratory opened at Winnsboro, S. C. Anon. *Textile World 100*, 98, 125 June 1950).

The facilities and program of the new development laboratory of the U. S. Rubber Co., Winnsboro, S. C., are described briefly. A floor plan of the laboratory is given.

Pioneer textile machinery inventors. Anon. *Am. Wool Cotton Reptr. 64*, 73, 75, 77 (May 4, 1950).

A brief history of the development of textile machinery is presented with a review of early textile machinery inventors.

Recent trends and developments in textile investigation. Jas. A. Stevenson. *Am. Dyestuff Reptr. 39*, P431-32 (June 26, 1950).

Recent developments in textiles and their impact on fabric design and textile finishing are noted briefly. The possibilities of new fabrics are increased by new fibers and finishing processes. New ideas in the use of resins also contribute to these changes. Bleaching and dyeing by continuous process lower production costs and increase mill capacities.

Research achievements in 1949. Julius B. Goldberg. *Am. Wool Cotton Reptr. 64*, 79, 81, 83, 85-6 (May 4, 1950).

A review of research developments in 1949 including mention of the new synthetic fiber, Celcos; a metallic yarn "Luxus-Fil", the "Strip-O-Matic" flexible card clothing, etc.

Research for the textile industry. Vikram A. Sarabhai. *Indian Textile J. 60*, 397-99, 413 (Feb. 1950).

The need for research in the textile industry is stressed. Figures are cited to show that the chemical industries in the U.S.A. spend nearly 40 times as much for research as does the textile industry. The extreme lack of research in Indian is emphasized and possible remedial steps to alleviate this condition cited.

Research in the wool textile industry. Anon. *Textile Mfr. 76*, 271-72 (June 1950).

This account of the research activities of the Wool Industry Research Assn. (England) is based on the report of the Director for the year 1949/50. Work in the following fields is noted: scouring and combing, woolen carding and spinning, worsted drawing and spinning, weaving, the Technical Survey Section, and testing.

Review of research and development in the field of textile during 1949. *Textile Research J. 20*, 317-60 (May 1950).

This is a review of the more important contributions to science and technology in the field of textiles that appeared in the literature in 1948. The discussion, which is based on 826 references, is arranged by subjects.

Textile machinery research. Anon. *Am. Wool Cotton Reptr. 64*, 27, 175-76 (May 4, 1950).

Results of textile machinery research are briefly described.

Textile research shows rapid advance. Julius B. Goldberg. *Am. Wool Cotton Reptr. 64*, 9-10, 42-3 (June 8, 1950).

New developments during the first few months of this year in fibers and machines, processes, and improved production methods are outlined.

U. S. Rubber opens new laboratories as part of textile expansion program. Anon. *Textile Age 14*, 36-7 (May 1950).

The new research and development laboratory of the U. S. Rubber Co. is briefly described with the objectives of the laboratory outlined.

Wool manufacturers' annual meet. *Textile Industries 114*, 94A-B (May 1950).

Highlights of the National Association of Wool Manufacturers' forum on pensions, research and machinery developments at their annual meeting are presented. The Prince-Smith centrifugal system for spinning and twisting is also described.

WRP advisory committee discusses progress. Anon. *Am. Dyestuff Reptr. 39*, 379 (May 29, 1950).

In a brief note, the progress of the Wool Research Project, at the Textile Research Institute, is described.